

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aeronautical Weekly in the World. Founded January, 1909.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 982. (No. 42. Vol. XIX.)

OCTOBER 20, 1927

Weekly, Price 6d.
Post free, 7d.

Flight

The Aircraft Engineer and Airships

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C.2
Telephone: Gerrard 1828. Telegrams: Truditur, Westcent, London.

Annual Subscription Rates, Post Free.
United Kingdom .. 30s. 4d. Abroad .. 33s. 0d.*

* Foreign subscriptions must be remitted in British currency.

CONTENTS

Editorial Comment:	PAGE
The Great Cruise	729
Another Great Flight	730
Ordering Aircraft in Pairs	730
R.A.F. East Cruise	732
Fairey Metal Airscrews in Schneider Race	735
Sir Alan Cobham's Next Flight	737
Sikorsky S 36 B	738
Private Flying	740
Light 'Plane Clubs	742
Airships From the Four Winds	743
Royal Air Force	744
Notice to Airmen	744
Personals	744

"FLIGHT" PHOTOGRAPHS.

To those desirous of obtaining copies of "Flight" Photographs, these can be supplied, enlarged or otherwise upon application to Photo. Department, 36, Great Queen Street, W.C.2

For Sizes and Prices, see Advert. on page iii.

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list:—

1927	
Oct. 20	Aero Golfing Soc. (Cellon Cup), Walton Heath.
Oct. 20	"Safety Devices for Aircraft." Mr. M. L. Bramson, before R.Ae.S. and I.Ae.E.
Nov. 3	Joint Meeting. "High Speed Compression Ignition Engine Research." Mr. H. B. Taylor, before R.Ae.S. and I.Ae.E.
Nov. 17	"The use of the Wind Tunnel in the Prediction of Aeroplane Performance." Mr. R. K. Pierson, before R.Ae.S. and I.Ae.E.
Nov. 24	"Modern Developments in Aircraft Instruments." Maj. C. J. Stewart, before R.Ae.S. and I.Ae.E.
Dec. 1	"The Problem of the Long Range Flying Boat." Maj. J. D. Rennie, before R.Ae.S. and I.Ae.E.
Dec. 8	"Toy." Capt. F. Entwistle, before R.Ae.S. and I.Ae.E.

EDITORIAL COMMENT.



The
Great
Cruise

VERY quietly and unostentatiously, as befits a Royal Air Force Flight, the four R.A.F. Supermarine "Southamp-ton" left Cattewater, Plymouth, on Monday, October 17, on the first stage of their great cruise towards the Far East, under the command of Group-Captain Cave-Browne-Cave. There is no need to be an aviation enthusiast in order to realise the significance of the flight. For the first time in the history of the British Empire, marine aircraft are being used on such a large scale for "showing the flag." In this connection, one should not forget the flights which have already been made, such as the cruise of two Supermarine "Southamp-ton" to Egypt and back, the flights by Fairey bi-planes to the Cape, back to Cairo, and on to England, the flight from Cairo to Kano and back, and quite recently the Baltic cruise of a flight of flying-boats at the time of, and in connection with, the Inter-national Aircraft Exhibition at Copenhagen. But, compared with all these, splendid though they all were in their way, the great flight which commenced on Monday is a true Empire cruise, in that it will touch a much greater number of points in various parts of the Empire, it will extend over a much greater distance, and in point of time it will totally eclipse anything hitherto attempted, the plans providing for the four flying-boats to be away for a year or more.

It will be recollected that the first cruise by "Southampton" flying-boats was an unqualified success. Yet the boats then used were inferior in many respects to the four engaged upon the present venture. Thus, they had wood hulls in place of the all-metal hulls which form such a conspicuous feature of the latest machines. In view of the Air Ministry's decision to aim at employing ultimately nothing but all-metal aircraft, it is gratifying, and not a little significant, that already the art of building metal flying-boat hulls has progressed to such an extent that the authorities feel justified in sending a flight of flying-boats with Duralumin hulls on a cruise of some 25,000 miles through widely-varying climatic conditions. It is only a few years ago that a flying-boat then

engaged upon making a flight to the East caused its crew a good deal of anxiety because of the effect upon the hull of the intense heat, which was so great that at times it became necessary to have parties of men constantly pouring buckets of water on the hull to prevent the planks from splitting. Whatever difficulties the present flight will encounter, trouble from this source will not be one of them. On the other hand, it would be idle to pretend that all the problems connected with metal construction have been entirely solved. One of the most serious of these is corrosion, and although the protective process known as the "Anodic Treatment," has been found to go a long way towards immunity, it still remains to be demonstrated that the process is effective over such a long period, and under such varying conditions as must be met with on a cruise of this nature. It will be realised that entire avoidance of surface scratches is scarcely to be hoped for, and it remains to be seen how Duralumin hulls will stand up to the hard wear and tear. There is good cause to believe that they will come through with flying colours, but a practical test under severe service conditions is still needed to clinch the matter. If the four hulls succeed in surviving, we can proceed with much greater confidence than if we had only had experience of home conditions, with ample shore facilities always available. On a cruise of this nature it will not be possible to "nurse" the machines to the same extent as can be employed at home, and the test will be a really searching and convincing one.

Apart from the subject of corrosion, there are numerous others which the far east cruise will afford an excellent opportunity of exploring. Mooring under all sorts of conditions; fuelling from floating bases; the amount of evaporation of petrol from tanks slung under the top plane; the possibility of the crews living on board for considerable periods and keeping fit under the necessarily somewhat cramped conditions. These and a host of other problems of which extensive practical experience is still required will doubtless be thoroughly investigated during the cruise. That the technical lessons of the cruise will be invaluable goes without saying.

The political side of the question is no less important and there can, we think, be no doubt that this method of "showing the flag," apart from being much cheaper, will have a very great effect, not only in the various parts of the Empire which the flying-boats will visit, but also abroad. The ultimate destination of the flight is Singapore, and as that will be an extremely important base in the future, the flight will without doubt be watched with the very greatest interest by all the civilised nations.

Altogether, the importance of the R.A.F. Far East Cruise can scarcely be exaggerated, and we feel sure all our readers will join us in wishing Group-Captain Cave-Browne-Cave and his gallant companions the very best of luck on their great pioneer flight.

❖ ❖ ❖

Another Great Flight

Flying-boats will be prominently to the fore during the next few months. In addition to the R.A.F. Far East Cruise, that indefatigable Empire aviator, Sir Alan J. Cobham, is starting next month on a great survey flight around the greater part of Africa in a Short "Singapore," with Rolls-Royce "Condor" engines. Like the Supermarine "Southampton," the Short "Singapore" has an all-metal hull, of the type developed by Short Brothers during

the last six or seven years, and again the metal construction will be put to a severe test. But, apart from any technical experience which it is hoped to gather on this flight, the main object will be one of surveying conditions along the route for the suitability of establishing air lines. It will be recollected that after his famous flight to the Cape and back, Sir Alan Cobham expressed himself strongly in favour of the seaplane, and the flight on which he will start next month will afford unrivalled opportunities for obtaining practical experience under the actual conditions in which a commercial service would operate. Once more Sir Charles Wakefield has generously come forward with financial assistance, but for which the "Sir Charles Wakefield Flight of Survey around Africa" could not have been undertaken. Sir Charles is steadily and gradually piling up against the Empire a debt of gratitude, which it will be hard put to pay. Fortunately, Sir Charles Wakefield is satisfied to find his reward in the good work he is thus helping to accomplish. As in the case of the R.A.F. Far East Flight, Sir Alan Cobham's survey expedition will not attempt to cover the route in the shortest possible time. The very fact of it being a survey flight will mean stopping frequently to explore and examine various localities for their suitability as bases, and, in addition, Sir Alan expects to spend considerable time discussing air lines with representatives of governments and commercial organisations. In spite of this, however, he expects to return to England towards the end of February of next year.

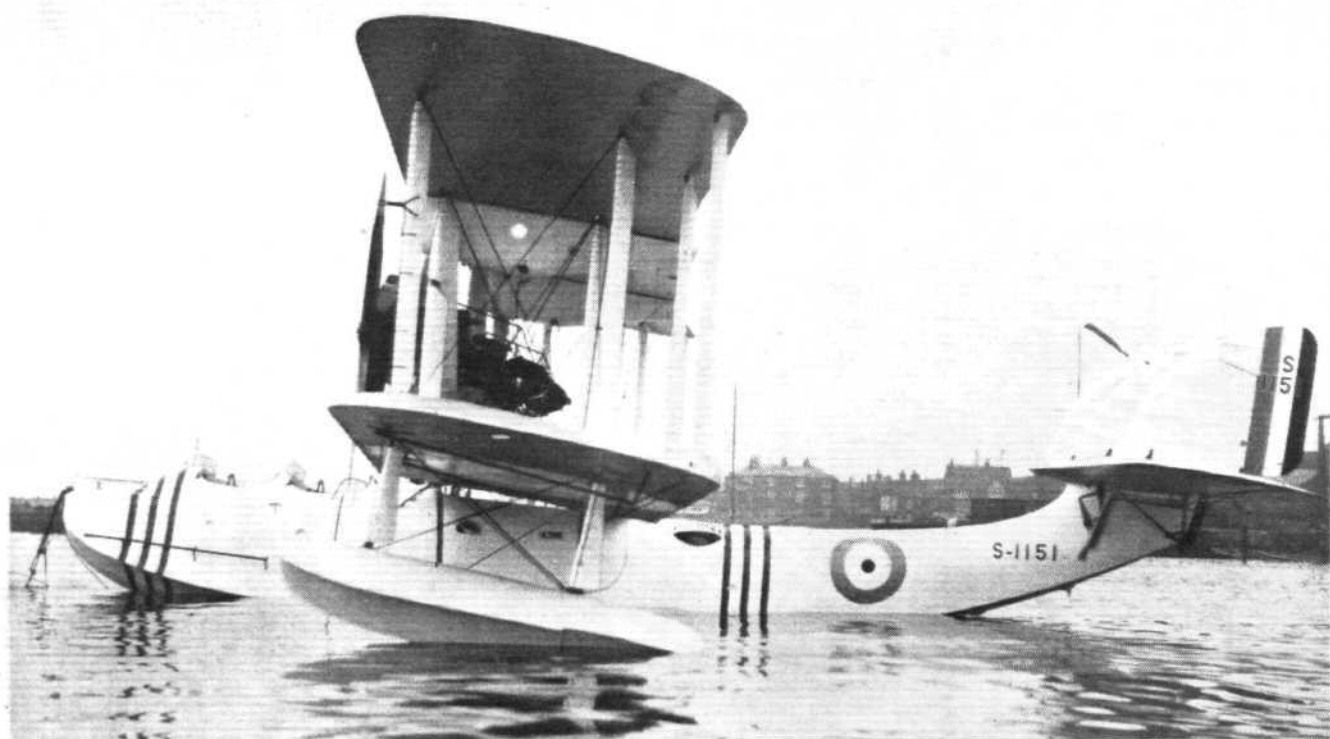
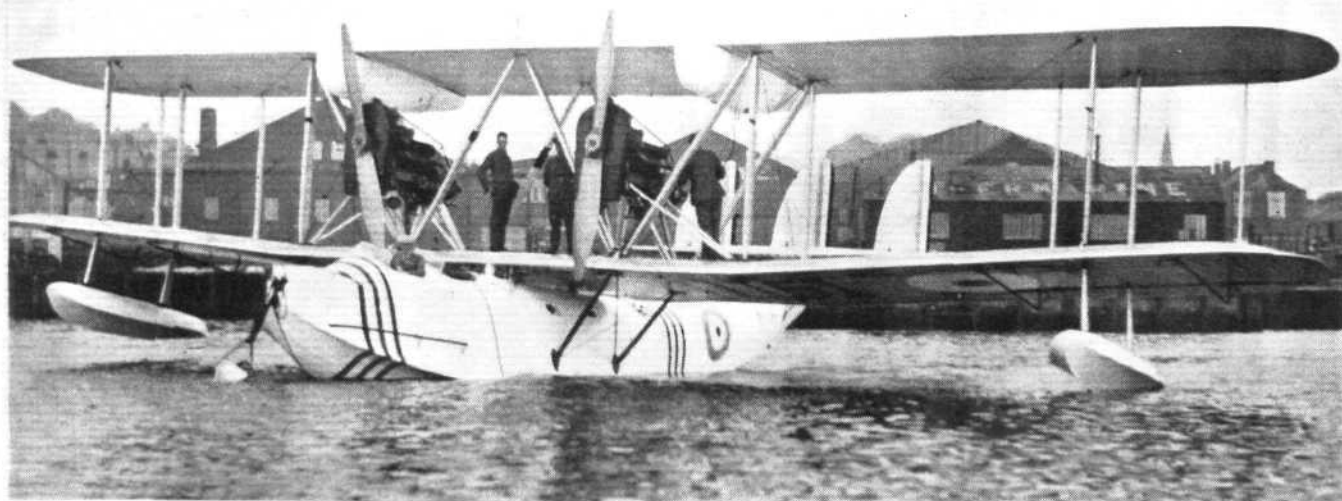
❖ ❖ ❖

Ordering Aircraft in Pairs

The paper on "The Practical Side of Performance Testing of Aircraft," read by Squadron-Leader T. H. England, D.S.C., A.F.C., on October 13, before "The Royal Aeronautical Society with which is incorporated the Institution of Aeronautical Engineers," was one of very considerable interest. Unfortunately, it was of such a nature that it cannot usefully be summarised. One passage in the paper, however, deserves to be given special attention. The lecturer suggested that when a new type of machine is produced, two identical machines should be built, one to be sent to Martlesham for performance tests, and the other to a Service unit with instruction to fly it more or less continuously until it had flown for 150 hours, in all sorts of weather conditions.

The suggestion is a most excellent one. At present a machine on type tests at Martlesham will generally have had roughly 20 hours' flying by the time it has passed all its tests. This, Squadron-Leader England maintains, is not sufficient to discover any small defects in a design, and it is not until a machine goes into production that modifications are made, when they cause endless delay and annoyance. By building two machines at the beginning, the consolidation of the Martlesham report and that of the Service unit, much fuller information would be available, and a great deal of time and expense would be saved in the end.

It is true that the building of two machines initially would entail a certain amount of extra expense, but although the country would have to pay for twice as many "prototypes," many of which would never go into production, we feel sure that in the long run money would be saved. Not only so, but the standardisation of new types would be very greatly speeded up, a matter of very vital importance.



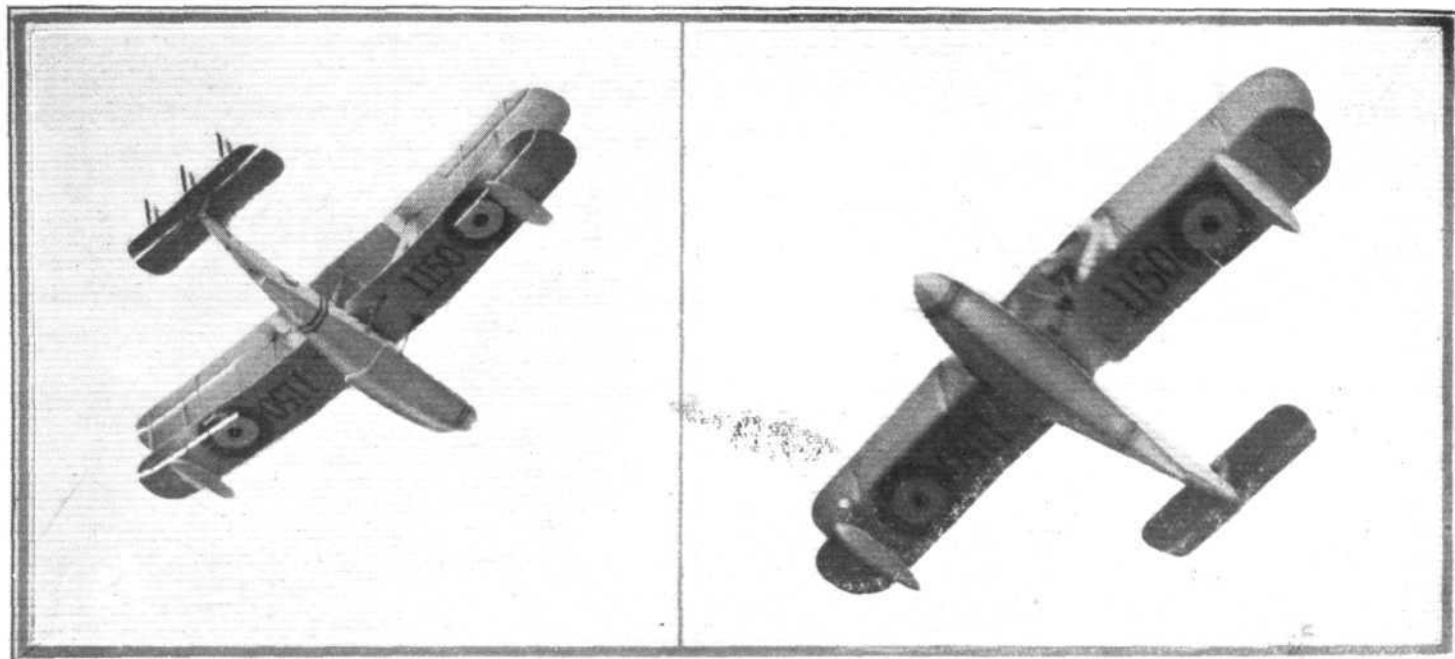
THE R.A.F. FLIGHT TO THE FAR EAST: Three views of the Supermarine "Southampton" metal hull flying-boat on the water. The engines are Napier "Lions."

THE GREAT FLYING-BOAT CRUISE

Four Supermarine "Southamptons" Start on 25,000 Miles' Flight

THE most ambitious flight of its kind ever to be attempted by the Royal Air Force commenced on Monday of this week, October 17, when the four Supermarine "Southampton" twin-Napier-engined flying boats left Cattewater, Plymouth, on the first stage of their great cruise to the East and Australia—a cruise which, if successfully carried out, will cover a total distance of something like 25,000 miles (40,000 kms.), or 100,000 machine-miles (160,000 machine kms.). The flight

of points on the Imperial routes with aircraft drawn from England or other parts of the Empire. In no sense is the cruise to be regarded as a "stunt," and no attempt will be made to cover the route between London and Australia in "record" time. Working to a pre-arranged time-table, the four machines will collect experience as they go along, experience in mooring in all manner of places and under various conditions, in the possibility of living on board for short



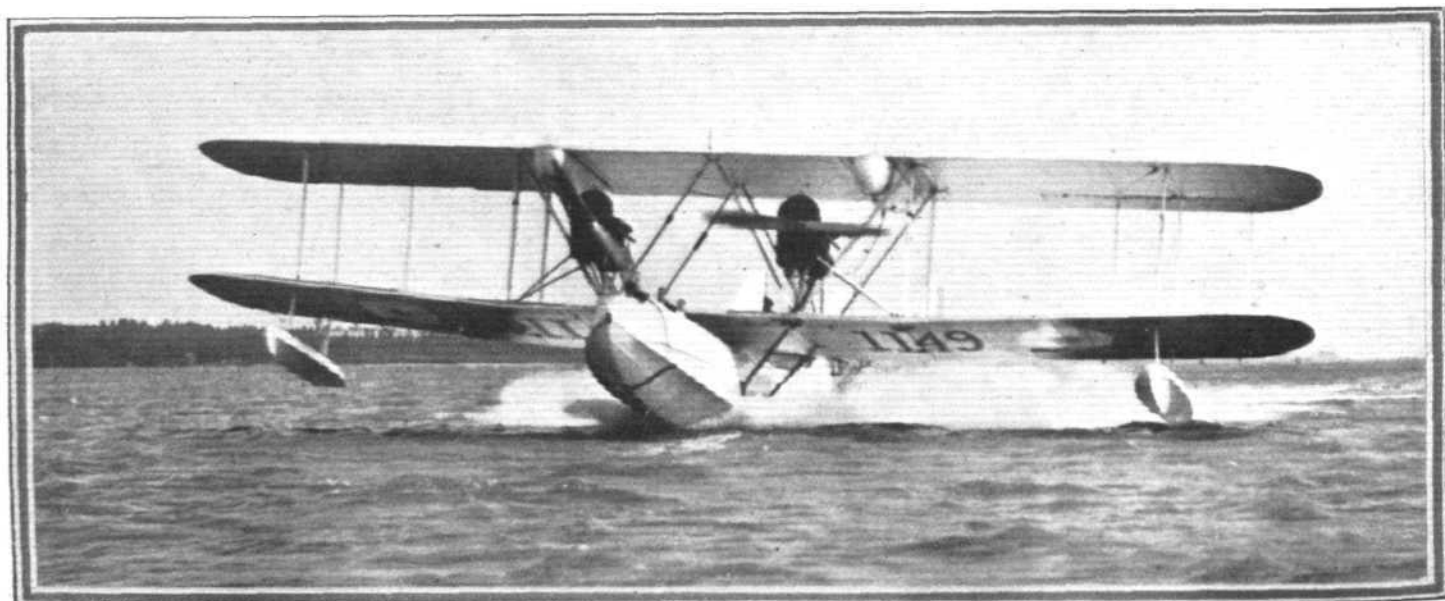
THE R.A.F. FAR EAST CRUISE: Two views of the Supermarine "Southampton" twin-Napier flying-boat in flight.

is under the command of Group-Capt. H. M. Cave-Browne-Cave, D.S.O., D.F.C., whose second in command is Sqdn.-Ldr. Gerald E. Livock, D.F.C. In addition, five flight-lieutenants and four flying officers are taking part in the flight, *i.e.*, Flight-Lieuts. Percy E. Maitland, A.F.C.; Sydney T. Freeman, M.B.E.; David V. Carnegie, A.F.C.; Cecil G. Wigglesworth, A.F.C.; and Herbert G. Sawyer, A.F.C.; and Flying Officers Bernard Cheesman, M.B.E., Stuart D. Scott, Gilbert E. Nicholletts, and Leonard Horwood, M.C.

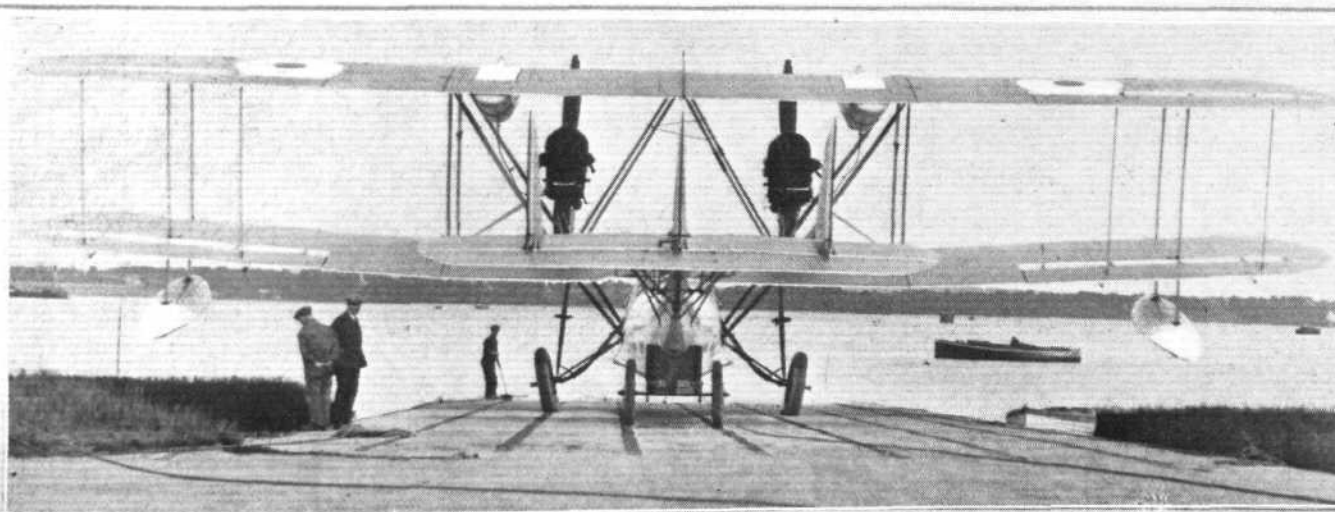
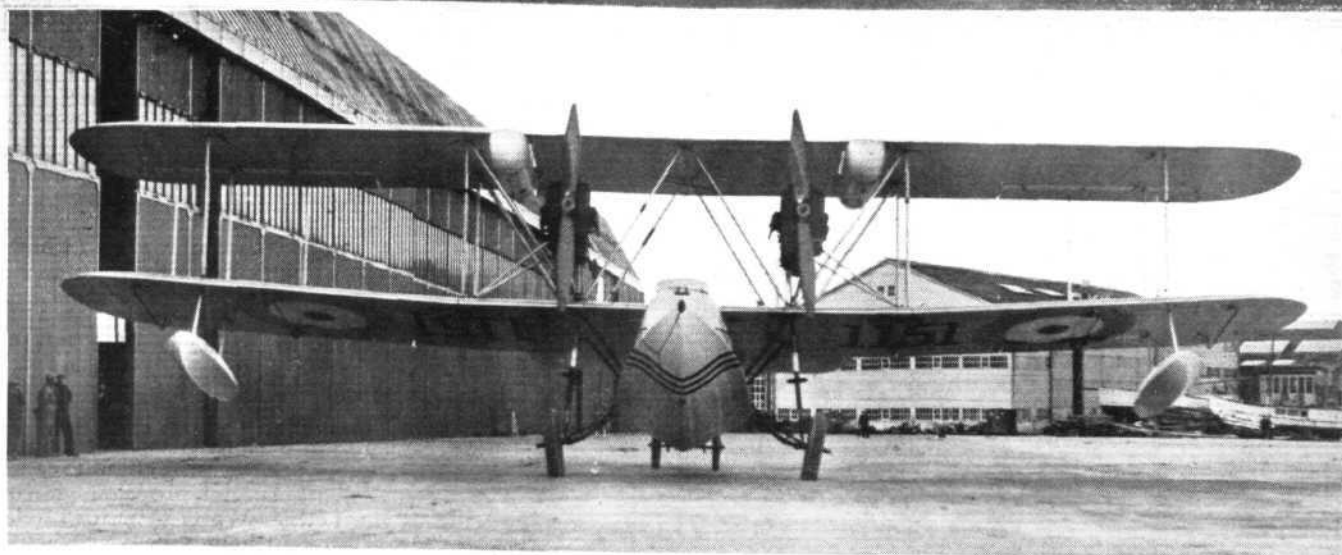
The cruise is being undertaken with the object of gaining experience in the problems involved when flying-boats carry out an extended independent cruise. It is also hoped to gain experience of the problems involved in the reinforcing

periods, in fuelling from floating bases under all sorts of weather conditions—in short, experience of a particularly practical form such as much be accumulated before air defences on Imperial lines can be planned with any degree of certainty. The four flying-boats will operate without any accompanying surface vessel, and will make use of such refuelling bases as exist along the route, with possibly two or three exceptions, where special arrangements may have to be made.

According to present plans, the flight should reach Karachi in about one month's time. Bombay and Colombo should be reached during the month of January, and Calcutta late in January or early in February, 1928. It is expected that the



THE R.A.F. FAR EAST CRUISE: A Supermarine "Southampton" alighting.



The R.A.F. FAR EAST CRUISE: Three views of one of the four Supermarine "Southampton" twin-Napier-engined metal hull flying-boats which are making a flight to India and Australia. The beaching trolley shown in the photographs will not be carried on board, but will be sent forward for use where beaching is planned.

four boats will arrive at Singapore in February. Here a stay of considerable duration will be made, but it is proposed to get as far as Batavia during May, while Fremantle will be reached early in June. Then the flight will commence its circuit of the Australian coast line, via Adelaide and Melbourne (in June), Sydney, Gladstone, and Townsville (in August). Australia will be left again during September, with return to Singapore in the same month, and a flight to Hong-Kong during November. Ultimately Singapore will again be reached in the New Year (1929), where probably the four boats will then be permanently stationed. This itinerary is approximate only, and slight deviations from it are to be expected.

The Machines

The type of machine chosen for this highly important cruise is the Supermarine "Southampton" with two Napier "Lion" engines. The "Southampton" type has been found to be a most serviceable machine, with excellent air and sea qualities. Moreover, the machine is definitely able to fly with either of its two engines stopped, so that forced landings *en route* are extremely unlikely. In view of the fact that certain sections of the route will lie over land (including the "hop" from the eastern end of the Mediterranean to the Euphrates at Baghdad), this ability is of great importance. A novel feature of the particular machines making the flight is that they have all been fitted with Duralumin hulls in place of the wooden hulls with which the earlier "Southamptons" were provided. Metal construction of flying-boats is regarded as having a number of advantages, among which not the least is the absence of water soakage, which in a machine of this size may amount to several hundred pounds. A difficulty in connection with the use of Duralumin for flying-boat hulls is that the material is liable to corrosion. The anodic process promises to reduce this risk to a very large extent, and the hulls of the "Southamptons" are so treated. This process, being merely a surface treatment, does not get over the difficulty if the surface is scratched, and during a cruise of this nature it is to be expected that scratching cannot be altogether avoided. Thus the cruise will, among other things, afford an excellent opportunity for discovering how far the anodic treatment is really effective under actual service conditions.

Apart from the substitution of metal hulls for wood, the internal accommodation has been somewhat altered so as to give as much space as possible for the crews, who will frequently have to live on board. Sleeping accommodation has been provided inside the hull, while against the time when the hot climates are reached, provision has been made for slinging hammocks between the two engine supports. Also the design of the "Southamptons" is such that it will be possible to rig awnings over the open space between the engines, so that when the machines are at moorings the crew will be able to seek shelter from the sun.

Cooking will necessarily have to be of a somewhat primitive style, but stoves will enable the crews to provide hot meals occasionally, or even for fairly long periods, should this become necessary. Ventilation is another problem which has received considerable attention. With the petrol tanks situated under the top 'plane, there is no petrol in the hull, so that the risk of petrol fumes in close proximity to the cooking stoves does not arise, but in the tropics, a thorough ventilation will be essential to the well-being of the crews, while at all times, good ventilation is an advantage in avoiding any accumulation of moisture in inaccessible corners of the hull, where corrosion might be started.

The equipment carried on board for mooring the machines is fairly complete, and it is expected that the machines will be able to come to moorings anywhere on the journey without external aid. Needless to say, the wireless equipment is of the latest type, and the flight will be in direct communication with shore stations almost throughout the cruise, and will thus be able to receive weather forecasts, meteorological reports, etc.

The Napier "Lion" engines are of the standard 5A type, which has already amply proved itself, under all sorts of service conditions. In view of the varying climatic conditions encountered on such a flight, special propellers have been fitted. These are of the Leitner Watts type, of steel, with blades of adjustable pitch. Although heavier than wood propellers, the steel airscrews should be more immune from damage by excessive temperature changes and by flying spray. Again, it will be interesting to see how this type of propeller behaves under very strenuous conditions.

The Supermarine Aviation Works of Southampton, the designers and constructors of the machines, have a long history of seaplane development behind them, and when it is realised that the same firm designed and constructed the machines which recently gained first and second place in the Schneider Trophy race at Venice, it will be realised that their chief designer, Mr. R. J. Mitchell, is equally capable of dealing with machines at both ends of the scale, the fastest racer, and the weight-lifting cruising flying-boat.

The Napier "Lion" engines are already world famous, and as they have gained their reputation through years of strenuous work, one need have no fear concerning this part of the equipment. If any engine is able to carry out such a cruise without trouble, the "Lion" will do it. The cruise will represent something like 300 hours' flying, and if necessary there is no reason to doubt that the "Lion" will be able to do this time without needing a major overhaul.

The crews of the four machines have been carefully picked, and from the Commander down they know their jobs from A to Z, so that here again one need have no fears of the outcome. Altogether, the great cruise starts under excellent conditions, and one may look forward hopefully to its successful completion.



THE R.A.F. FAR EAST CRUISE: Group of officers making the flight. In front of them is a model of the Supermarine "Southampton" twin-Napier-engined flying-boat used. From left to right: Flight-Lieut. C. G. Wigglesworth, A.F.C., Flight-Lieut. D. V. Carnegie, A.F.C., Squad.-Leader G. E. Livock, D.F.C. (Second-in-Command), F./O. B. Cheesman, M.B.E., Group Capt. H. M. Cave-Browne-Cave, D.S.C., D.F.C. (in Command of the Flight), Flight-Lieut. H. G. Sawyer, A.F.C., Flight-Lieut. P. E. Maitland, A.F.C., F./O. S. D. Scott, F./O. G. E. Nicholletts, F./O. L. Horwood, M.C., Flight-Lieut. S. T. Freeman, M.B.E.

FAIREY METAL AIRSCREWS IN SCHNEIDER RACE

Some Notes on their Design and Manufacture

SINCE Mr. S. A. Reed evolved the original solid blade metal airscrew, its adoption has resulted in an unbroken series of successes in all speed events. Commencing with its initial victory in 1923, every winner of the Schneider Trophy—and, incidentally every winner of the Pulitzer Trophy as well—has been fitted with these airscrews. Their superior efficiency arises from the use of a blade of thin section, which is stabilised wholly or partly by the centrifugal forces acting thereon.

The following notes are intended to outline the policy adopted for the design and final selection of the winning airscrews in this year's Schneider Trophy Race, and to give a brief description of the conditions under which they were manufactured and tested.

Selection of Airscrew Types for Maximum Efficiency

It was realized at the outset that although different types should be tried in order to ensure the greatest possible chance of success, the number of effective tests would have to be strictly limited. The engine and other components of the aircraft would justly claim a large share of the competitors'

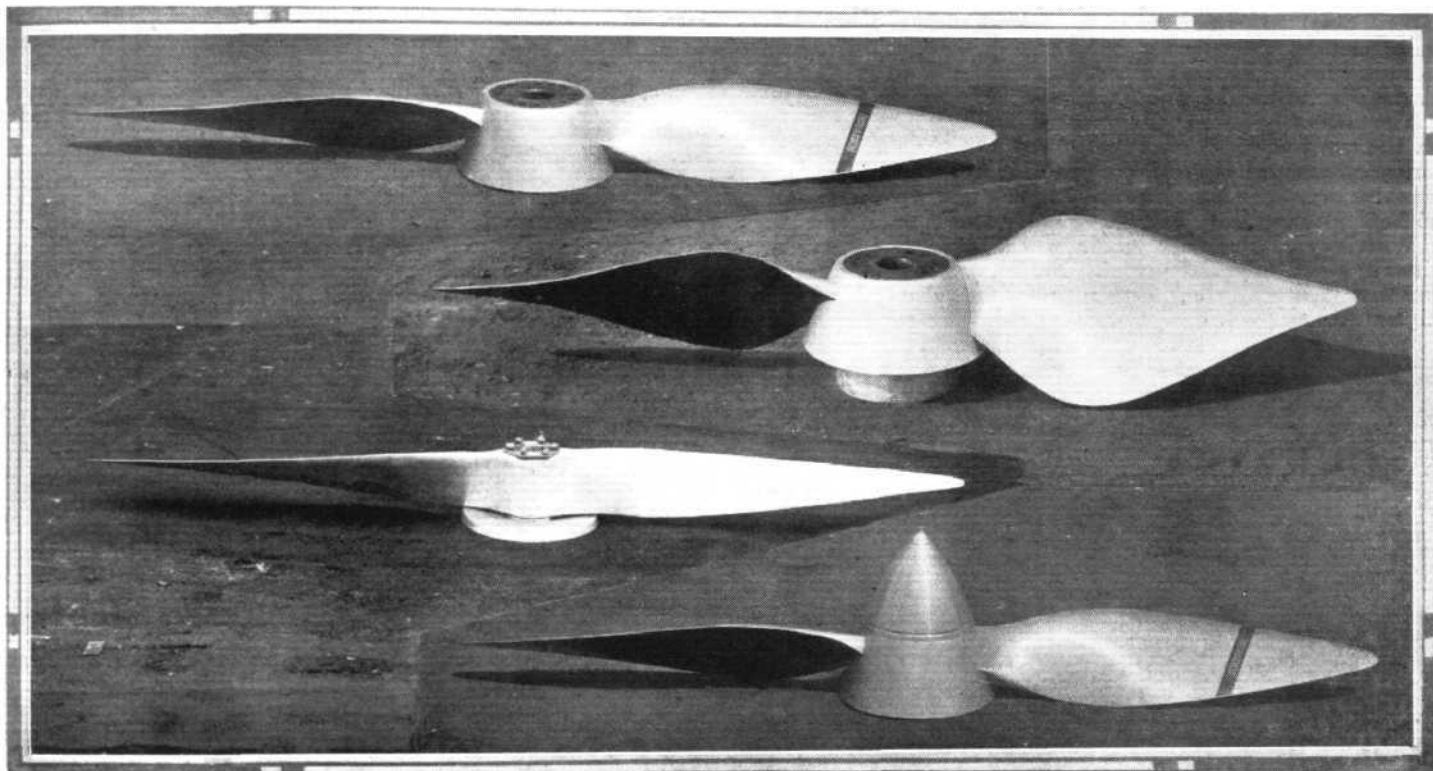
increased up to a point which would just lead to a theoretically inefficient value of the tip speed, but would correspondingly reduce slipstream resistance on the aircraft. In another, the blade widths were distributed in a form not properly consistent with the most efficient distribution of work, but more conducive to the avoidance of boss interference.

As a result of this scheme, it was found possible to deliver for trial a systematic series of airscrews in which success or failure could be most readily traced to any particular feature, the basic, or ideal form serving merely as a starting point for subsequent variations.

It was, however, of the utmost importance that the four types should form a continuous series, for had the characteristics been chosen at random, there would have been no possibility of connecting the results or drawing conclusions from a limited number of tests. Continuity was, in fact, equivalent to testing not four but a complete family of airscrews.

Blade Stability and Strength

The above considerations refer exclusively to aerodynamic performance, but it can be stated that much greater anxiety



FAIREY METAL AIRSCREWS: Various designs experimented with for the Schneider Trophy Seaplanes. The propeller in the lower right-hand corner is shown complete with spinner.

attention, whilst weather conditions and the problem of transport to Venice would still further restrict the time available for trial flights.

With these limitations in view it was decided to evolve four different distinct types of airscrew for each of the two engines (ungeared and geared). The first of each series was designed to conform strictly with the ideal theoretical airscrew, giving maximum efficiency for the speed and horse power proposed; the term "ideal" must here be understood to apply to an airscrew isolated from the aircraft and engine and working in undisturbed air. The solution for such an airscrew is determinate in every respect, and the conclusions of theory in these special circumstances are known to be well supported by laboratory tests. It was not, however, expected for a moment that this type could be final when applied to the full scale aircraft and airscrews combination, and, in order to cover as completely as possible the non-calculable full scale effects, the following line of action was adopted. In each of the three remaining types of the series at least one of the essential features of design was made to depart from the ideal form, progressively, and in the directions which were considered most appropriate to overcome suspected full scale difficulties. For instance, on one type the diameter was

was felt in regard to stability and strength in view of the unprecedented conditions under which the blades would be working. Blade flutter and wholesale hunting of airscrew and shaft in resonance with certain engine or aircraft components are two of the most formidable enemies of airscrew efficiency.

With regard to blade stability, reliance had to be placed in the accumulated experience which the Fairey Aviation Co. has been able to acquire in the course of several years of practical research on this subject, and it is gratifying to note that none of the types submitted developed blade flutter.

Resonance with the engine or aircraft was encountered in one instance, and, although it was found possible to mitigate it considerably by subsequent alterations to the distribution of masses in the blades, the type of airscrew had to be discarded owing to lack of time for further trials.

In the absence of flutter, static strength afforded no essential difficulty and the stresses occurring were undoubtedly quite moderate.

Manufacture

In order to give full effect to the provisions made in design, the greatest skill and efficiency was required from the works department concerned with the manufacture of these air-

screws. The most highly skilled artisans were selected to finish the blades by hand, every inch of the blade surface being thoroughly inspected for irregularities of contour or discontinuities of any kind. It must also be remembered that the shops had to deal with spares and repeat orders in considerable number, frequently at very short notice.

Test Results

The tests were carried out in accordance with the scheme laid down above, and the process of selection was attended to in close collaboration with the aircraft and engine designers. Much valuable information was gained, and, although it was not found possible, owing to exceptionally bad weather, to complete the programme entirely before the departure of the machines for Italy, the number of types had effectively been reduced to two of each of the direct and geared drive series. The remaining alternatives now only rested with the final value of the engine power and revolutions per minute which were ultimately to be considered permissible.

It should here be mentioned that as a result of the experience gained during these tests it was possible to reset any of the airscrews in order to increase or decrease the engine revolutions, to such a degree of accuracy that the exact engine revolutions were obtained in every case.

In view of the previous remarks, it may be interesting here to note that the highest power and contemplated revolutions per minute were used in the race, and that the winning airscrews turned out to be, respectively, of the form referred to as "ideal" in the case of the geared engine, whereas for the direct-drive, the ideal type having been discarded due to resonance, the nearest approximation to it was eventually used.

The airscrew fitted to the winning machine was never tried on the engine in England, but was a development from the series of tests. It proved on trial, as already stated, to conform to the exact revolutions per minute and power desired, without needing the slightest alteration.

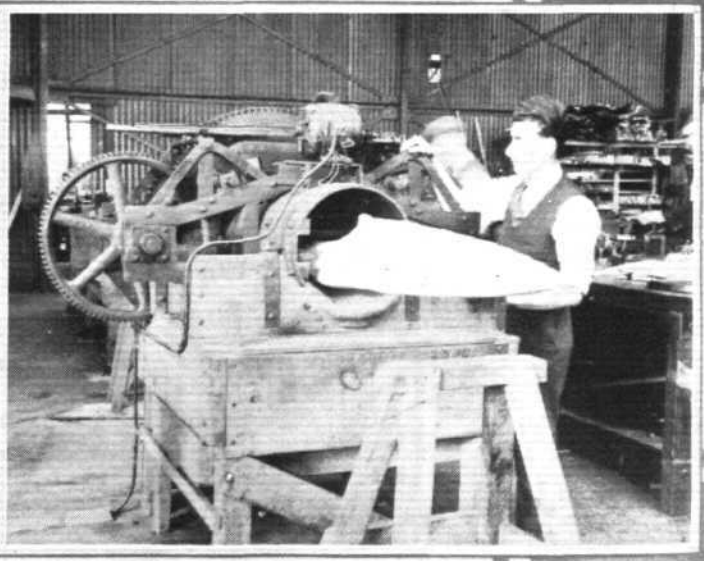
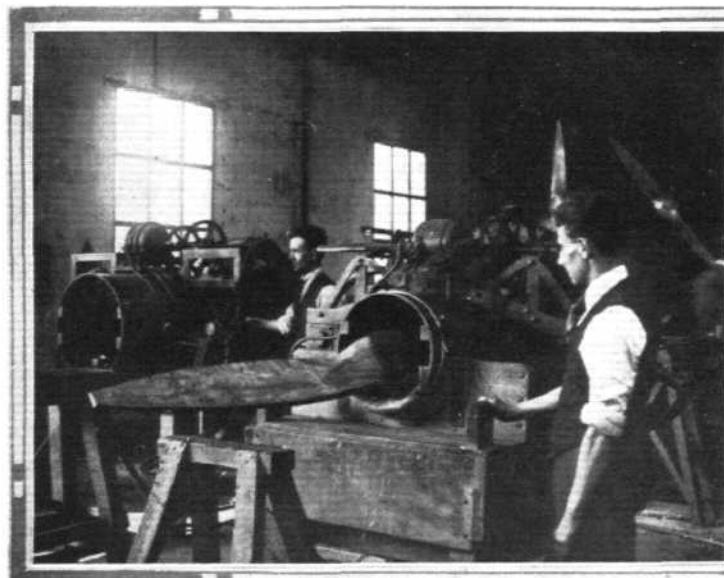
With regard to the spinners fitted to the Fairey metal airscrews in the race, it was found that the standard type was not entirely suited to the conditions imposed by ultra high-speed aircraft, and because of this a special design was

perfect accuracy, and at the same time be confident that the shops will be able to carry out his intentions. Profiles can be generated by cutter ensuring perfect continuity, and even where the cutter does not gain access, the desired shape can



FAIREY METAL AIRSCREWS: Mr. P. A. Ralli, A.F.R.Ae.S., who was responsible for the technical development of the propellers for the Schneider Trophy Race, was recently awarded the Silver Medal of the Royal Aeronautical Society for his work.

be finished by hand to within a few thousandths of an inch. The homogeneous qualities of the material make it possible to use the thinnest sections, venturing out into regions of the circumference where the tip speeds would be prohibitive for



FAIREY METAL AIRSCREWS: Two views of the machine in which the propellers are twisted.

developed and incorporated. This, roughly, consisted of a solid spinner about the airscrew boss with a spun cap attached thereto. Both in the actual race and during practising, this form of spinner proved eminently satisfactory throughout.

Special Features of the Fairey Metal Airscrew

The Fairey metal airscrew has many admirable characteristics which are particularly suited for the production of the very highest results. The blade lends itself to any form of shape and section which the designer may consider appropriate and desirable. He can call for "knife edge" entries and trailing edges, or otherwise grade his edge radius with

thicker and less accurately finished profiles. A thin camber ratio can also be maintained practically up to the root.

In the case of seaplanes, it is particularly important that the tips should be robust to resist spray without having to be unduly thickened; more especially does this apply to the case of the racing seaplane, where the floats must be designed to have a minimum air resistance. This is only obtained at the expense of clean running upon the water. The length of taxiing period is also longer with this type of aircraft. After the actual race, where the conditions were such that the wooden airscrew could never have existed at all, the Fairey metal airscrews were found in perfect condition.

A Bristol to Attempt Altitude Record

CAPT. C. F. UWINS, the well-known test pilot of the Bristol Aeroplane Co., is preparing to make an altitude

record shortly on a Bristol "Bulldog," fitted with a super-charged Bristol "Jupiter" engine. He will naturally wear electrically-heated clothing and use oxygen apparatus.



SIR ALAN COBHAM'S NEXT GREAT FLIGHT

"Sir Charles Wakefield's Flight of Survey Around Africa"

THOSE who know him best never really believed that Sir Alan Cobham could ever rest content with a "stay-at-home" existence, and to them, therefore, it did not come as a surprise to learn that the great Empire aviator has decided to undertake yet another Empire flight.

This time Sir Alan Cobham is to undertake a survey flight around the greater part of the African Continent, the machine which he has chosen being the Short "Singapore" all-metal flying-boat with two Rolls-Royce "Condor" engines, which has been placed at his disposal by the Air Ministry.

The route of the flight will be via the Mediterranean to Egypt, down the Nile and via the Great Lakes to Beira. From Beira the coast will be followed to Durban and Capetown, and the return journey will be made along the West Coast of Africa.

The flight will be called the "Sir Charles Wakefield Flight of Survey around Africa," because once more Sir Charles Wakefield has come forward to assist Sir Alan Cobham in an Imperial flight. The expedition will leave England about the middle of November, and it is hoped to return to England by the end of February, 1928. Frequent stops will be made to investigate flying conditions and the commercial possibilities of air lines, particularly through the centre of Africa and on the West Coast, the latter never having been flown over by a British machine.

Alan Cobham Aviation, Ltd., Sir Alan's firm, is working in close co-operation with the North Sea Aerial and General Transport Co., who have already arranged to run that section of the Cape to Cairo air route from Cairo to Kisumu. It will be the object of these firms to establish an air service from Kisumu southwards towards Capetown.

On his forthcoming flight Sir Alan expects to meet representatives of the governments and large commercial organisations in Eastern Africa with a view to getting their support for the eventual air service. It is his intention to find, if

possible, the best route for the service, taking into consideration flying conditions and the prospects of opening up new territory. Great interest has already been shown in the scheme, and it is hoped to obtain much valuable information which it is impossible to get in this country, so that the service may be started as soon as possible.

The Machine

The Short "Singapore" flying-boat is of all-metal construction, this applying not only to the hull, which is built of Duralumin, but also to the wings, which are constructed mainly of the same material. Short Brothers have been the pioneers of Duralumin construction in this country for a number of years, and have evolved their own special forms of construction. In the case of the boat hull this takes the form of approximately circular rings, to which the skin or planking is riveted. There are no longitudinal stringers, in the usual sense of the word, the fore and aft members being quite short, and interrupted at the transverse rings. By this construction the skin is made to take a large share of all the loads. As regards the wing spars, Short Brothers have also developed special forms. Although very quickly and simply made, these Duralumin spars have been found very efficient from the point of strength for weight. Local strengthening by means of laminations is one of the features of these spars.

The "Singapore" is a relatively small machine for the load which it carries, and the Rolls-Royce "Condor" engines are placed fairly high in the wing gap, so as to get the propellers well clear of spray. Pilots report that it is a particularly easy machine to fly, possessing a great amount of natural stability, and as the two engines are placed fairly close together, the turning moment with one engine throttled down is not very great, so that the machine is still quite manoeuvrable under these conditions.

U.S.A. to New Zealand Flight Fails

CAPT. F. A. GILES crashed on his biplane, "Wanda," at Elko, Nevada, on October 17, in the course of his attempt to fly from America to New Zealand. The pilot jumped out before the machine hit the ground, and escaped with a slight bruise. His machine ran into a ditch and was damaged but not completely wrecked.

Marseilles-Beirut Flight

LIEUT. PARIS and M. Bougault, who left Marseilles on October 11 to fly to Beirut and back non-stop, left Beirut on October 15 for the return flight *via* Suda. A mishap occurred, and the seaplane was found floating between Italy and Sardinia, and a German steamer rescued the crew and took the machine in tow.

To Bangkok from France

CAPT. CHALLES landed at Karachi on October 16, in the course of his attempt to reach Bangkok from Villacoublay, France. On October 17 he arrived at Allahabad. His machine is a Potez 25A biplane, fitted with a 450 h.p. Lorraine-Dietrich.

Germany's Winter Air Services

GERMANY is making preparation for winter night air services. On the routes chosen beacons will be placed at short distances apart on iron masts. They will be brilliant enough for each to be seen from the preceding one, even in bad weather. Special searchlights will also enable pilots to read their positions at night. This illumination will be installed on the Hanover-Berlin line to connect with the Berlin-Königsberg section, which has already been prepared.

Khartoum-Kisumu Service Again Suspended

CONSTANT misfortune marks this air line in the Kenya Colony. It only recently started afresh after recovering from two mishaps which put the machines out of action, and now the "Pelican" has crashed on a test flight on October 17. The air mail has been suspended. The mails from England had fortunately been landed.

Short Bros. of South Africa?

PROPOSALS to erect an aircraft factory in South Africa for the production of all-metal aircraft are being put before the Union Government. If they meet with approval it is said that capital amounting to £200,000 will be available.

It is reported that Short Bros. of Rochester are interested in the scheme. Bloemfontein is spoken of as a likely site for this factory owing to its central position. A trial order has been proposed so that an all-metal machine could be despatched to South Africa. It would have to be adaptable to Air Force work and civil aviation.

Lieut. Koppen Returning

THIS Dutch pilot, who recently opened an air mail line between Amsterdam and the Dutch East Indies in a preliminary flight of 10 days, has now left Batavia for home. He reached Singapore on October 17. He is bringing Indian mails for Holland, which comprise 1,300 letters and over 3,000 postcards.

Civil Aviation in India

FOR the benefit of civil aviation in India aerodromes are to be built at Allahabad, Benares, Gaya, Asansole, Dum Dum and Cawnpore. Landing grounds are to be made at all cantonments by the Lucknow Government.

Yorkshire Training School

IT is reported that the Air Ministry has purchased a large tract of land for the purpose of establishing an air school between Bridlington and Hornsea.

Bristol "Jupiters" in Chile

TWELVE months ago, the Chilean Government took delivery of a number of Vickers-Wibault machines, fitted with Bristol "Jupiter" engines. The Bristol Aeroplane Co., Ltd., have just received a communication from Chile, in which the mechanic in charge of the engines states:—"I am pleased to say that we have had no trouble at all, up to the present, with the 'Jupiters' here, and have not had to replace one single part." Revolutions of one kind are not infrequent in that part of the world, but not so regular, it would seem, as those of the "Jupiter!"

B.T.H. Magneto in Cape Flight

IN the advertisement of the B.T.H. Company which appeared in *FLIGHT* on October 6 last, an unfortunate slip was made in recording the fact that, aided by a B.T.H. Magneto, Lieut. R. R. Bentley had accomplished the very remarkable flight from London to the Cape in a standard "Moth." By an office error "Captain A. Bennett" was given credit for the splendid performance of Lieut. R. R. Bentley, for which we would ask Lieut. Bentley's pardon.

THE SIKORSKY S.36.B AMPHIBIAN

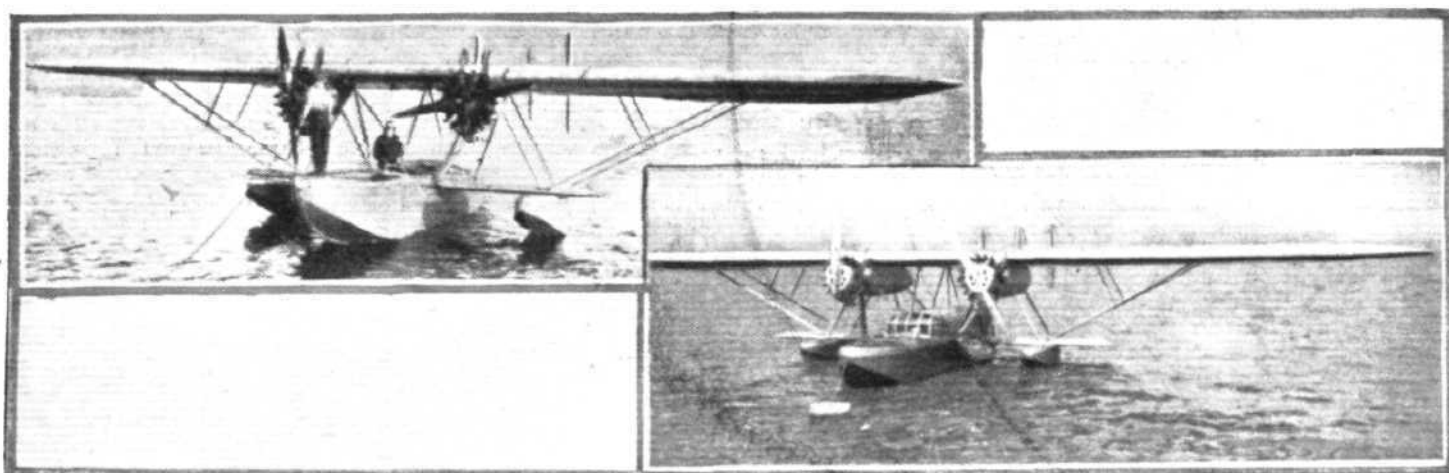
An Interesting Flying-Boat of Unusual Design

WE have, on previous occasions, referred to the work of Igor Sikorsky, the Russian aircraft designer—who produced the first successful "giant" multi-engined aeroplane some twelve years or so ago in Russia—now settled in America, where his firm, the Sikorsky Manufacturing Co., of New York, has produced several different types of aircraft. This week we are able to give some particulars of one of his recent productions, the S.36 B. amphibian flying-boat, which is, perhaps, of more than usual interest.

One point of interest attached to this Sikorsky flying-boat

thickness. The engines, two J.5 C. Wright "Whirlwinds," are located slightly below and in front of the upper plane.

There are three models of the S.36, one with open cockpits and one with an enclosed cabin, each seating a pilot and seven passengers. The third model has a front cockpit seating two side-by-side, and immediately behind is a cargo compartment of 175 cub. ft. All three models are again divided into two types, a service type and a long-distance type, the latter having a larger wing area, a different installation of tanks, etc.

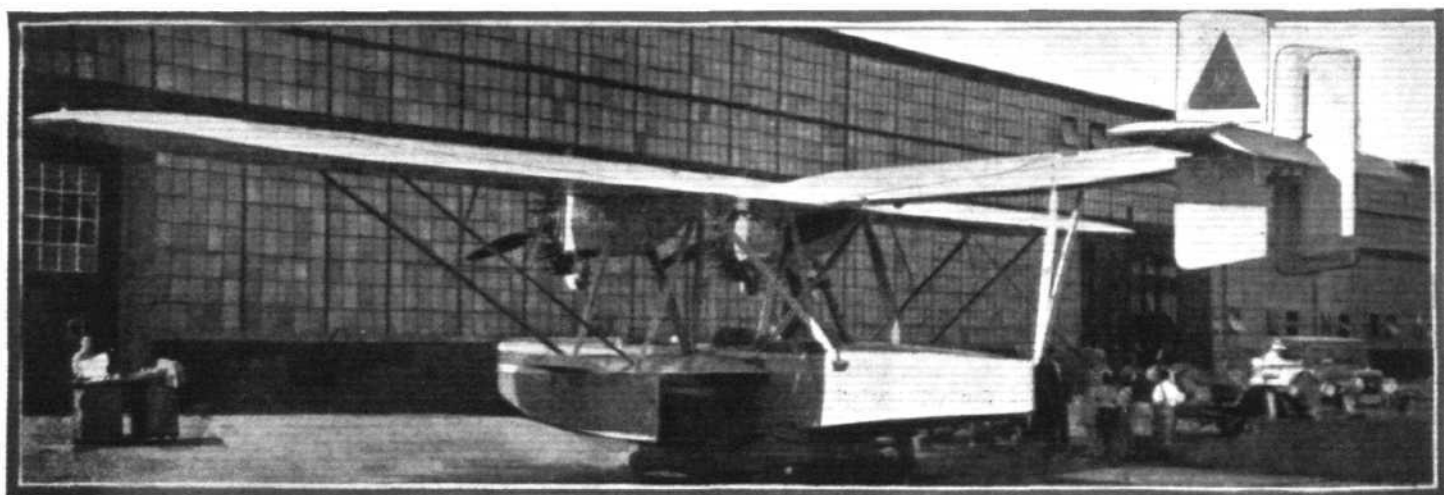


THE SIKORSKY S.36.B FLYING-BOAT: Two models are shown above: left, the open type, and, right, the enclosed amphibian.

is the fact that it is on one of these machines that Mrs. Grayson is making her attempt to cross the Atlantic from America to Denmark. Technically, also, it possesses several noteworthy features.

The Sikorsky S.36 is a sesquiplan flying-boat of the short-hull variety, the tail surfaces being carried, not on the hull, but by an outrigger from the main plane, braced from the stern of the hull by two struts. The tail surfaces are thus

The first, open cockpit, type is, we believe, a straightforward flying-boat, while the others are equipped with amphibian gear, which can easily be dismounted, if desired. One of the service open cockpit type was recently supplied to the Andean National Corp., Ltd.—a Canadian concern operating an oil pipe line in Colombia, S. America. This line runs along the Magdalena River, where no landing fields are available, so the amphibian gear was not required. The



THE SIKORSKY S.36.B FLYING-BOAT: Three-quarter rear view of the open type. It is fitted with two Wright "Whirlwind" engines.

entirely independent of the boat, and being placed high, are well protected from damage when alighting or taking off, besides being located in the line of thrust.

Attached to the hull is a very short lower plane, used mainly for structural purposes, at the ends of which are mounted wing floats. High up above the hull is the large main plane, supported by a form of Warren bracing. In this way the structural advantages of the biplane are obtained with, to a very large extent, the aerodynamical efficiency of the unobstructed monoplane wing; for it is possible with this arrangement to employ a high aspect wing of medium

machine used by Mrs. Grayson and Wilbur Stulz in their Atlantic attempt is an enclosed cabin amphibian.

Metal construction is used very largely on the S.36, the wings and tail structure being entirely of metal, fabric covered, while the hull is of hard wood with sheet duralumin covering.

The wing and tail trusses are of simple design, with external wire bracing replaced by streamline steel struts wherever possible, thus reducing vibration to a minimum and also facilitating assembly. The wing construction is also of simple yet original design. The internal structure is of

riveted and bolted duralumin—no welding being employed. It is remarkably light and lends itself readily to the fabrication of most of the members on a production basis.

The spars consist of two main members of T-section, one above the other—the lower one being inverted with the stem of the T upwards. These T-members are a special Sikorsky development, having small "bulbs" at the ends of the flanges (the head of the T) placed on the inside (toward the stem). By having these small "bulbs" tangent to the ends of the T-head on the side towards the stem a small flange results on that side increasing the moment of inertia about the vertical axis, yet still leaving the top and bottom surfaces of the spar flanges flat and unobstructed for riveting or reinforcing plates. The stems of the upper and lower T-section members are joined by diagonal members riveted in place by a single rivet at each end, making the spar into a Warren truss. All rivets are duralumin, and chrome nickel bolts are used on the major assemblies.

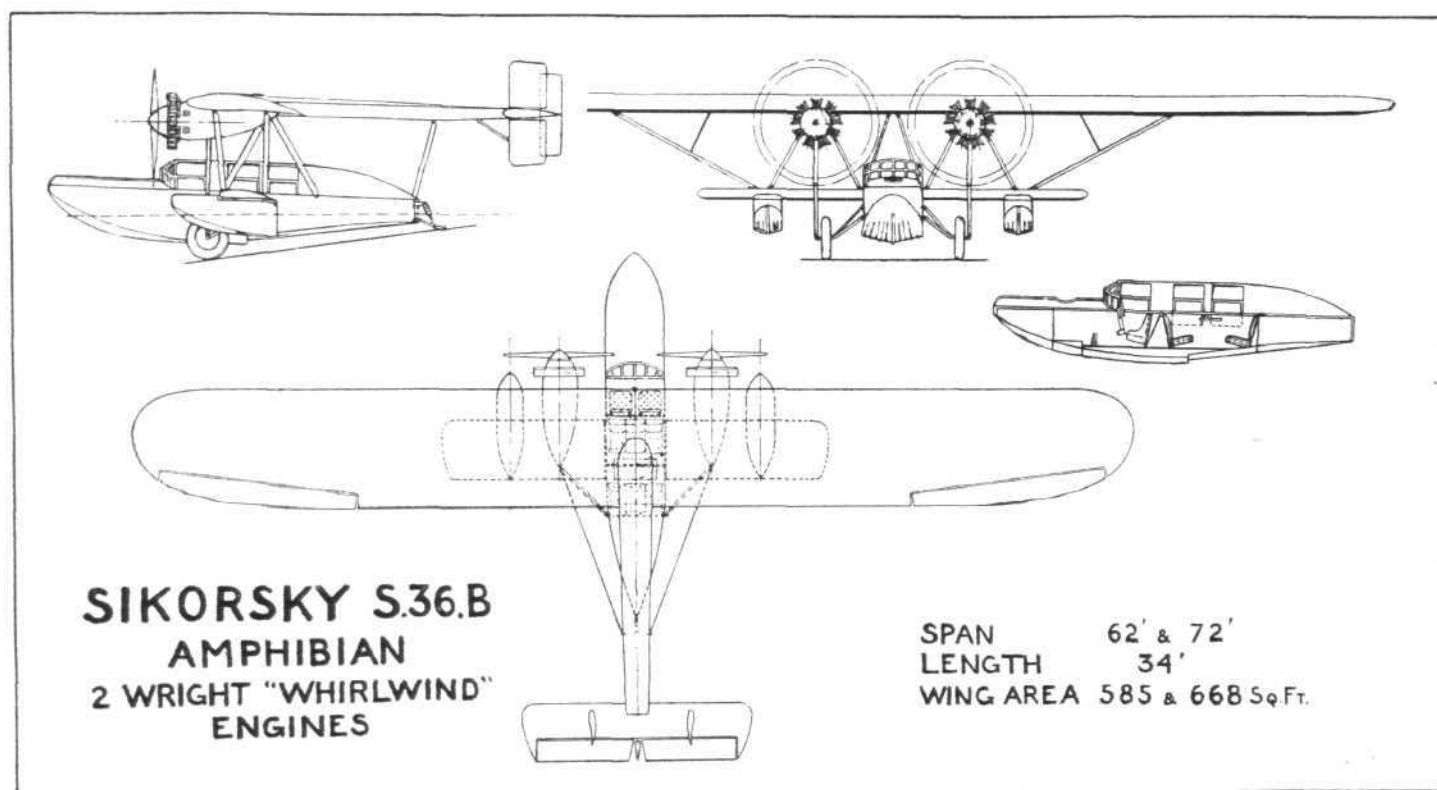
Drag bracing of the conventional type is employed, consisting of tie rods and compression ribs bolted to the spars, and of the same type of construction as the spars except that the flanges are perforated to reduce the weight. The ribs—a production job—consist of cap strips and diagonal bracing members of duralumin channels riveted together to form a

its tests, maintained an altitude of 1,500 ft., with a load of 2,500 lbs., on only one engine and was entirely under control.

In the cabin type, the hull is 26 ft. long, 4 ft. 3 in. wide and 5 ft. 2 in. high. It has a 12° Vee bottom with a step slightly to the rear of the mid-point. As previously stated, it is built up of a hardwood frame to which are screwed varnished duralumin struts. Duralumin wood-screws are used, and at the chine and wherever the covering is reinforced, duralumin rivets are employed. Steel tubular members across the hull are bolted in place and gusset plates are of duralumin, protected from corrosion by a special primer; the wood structure is finished with a coat of varnish.

The frames comprising the internal hull structure are of both solid wood and built-up wood sections, reinforced with sheet duralumin, depending upon the stress at that point. The hull is divided into numerous water-tight compartments by struts of duralumin, which are so arranged that by removing a few bolts one can easily crawl inside the hull to inspect or repair the structure. An opening is provided at the bow of the hull through which the pilot can drop anchor or effect a mooring when the boat is afloat.

The cockpit, with side by side dual control, is in the front part of the cabin, just forward and below the leading edge of the top plane where excellent visibility in all directions



THE SIKORSKY S.36.B FLYING-BOAT: General Arrangement Drawings to scale.

conventional type rib truss. The flanges of the channels of the diagonals are flattened at the ends to facilitate riveting. Where the diagonal bracing meets the cap strips, a simple duralumin fitting—interchangeable at all points—is used; two rivets hold this fitting to the cap strip, while a third rivet is used to fasten diagonal braces to each fitting. All parts in the wing structure that do not come in direct contact with fabric covering are finished with a coat of varnish, while those coming in contact with fabric are protected by a primer.

The outrigger carrying the tail is built up like a fuselage, of four longerons and cross bracing, of duralumin and of usual Sikorsky construction. It is attached at the mid point of the upper wing where two diagonal struts support it from the sides of the hull, while two struts also extend from the stern of the hull to a point about two-thirds from its forward end.

Both elevators and ailerons are of the mitred type, operated by cables carried up from the cockpit to the wing and passing through the latter (to the ailerons) or along the bottom of the outrigger to the tail. The rudders are of the Sikorsky compensating type, that is they are cambered so that with one engine stopped the camber of each rudder—one in the slip-stream and one out of it—tends to counteract the off-set thrust of the running engine, thus giving complete control of the machine. It may be mentioned here that this arrangement has proved very satisfactory in practice, and the S. 36, during

is obtained. Behind the cockpit are two seats, each comfortably accommodating three passengers; and behind these is a compartment for luggage. The cabin is equipped with an efficient ventilation system and is electrically lighted. In the open type, wind shields are provided for each cockpit. In the service type the petrol tanks are located in the top plane centre section, while on the long-distance types there are additional tanks behind each engine and in the nose of the hull.

The principal characteristics of the Sikorsky S. 36 are:—

	Service Type.	Long-Distance.
Span (top)	62 ft. 0 ins.	72 ft. 0 ins.
" (bottom)	18 ft. 1 in.	24 ft. 0 ins.
Overall length	34 ft. 0 ins.	34 ft. 0 ins.
Height on wheels	12 ft. 0 ins.	12 ft. 0 ins.
Wing area	585 sq. ft.	668 sq. ft.
Weight empty	3,950 lbs.	4,400 lbs.
Useful load	2,050 lbs.	3,000 lbs.
Weight laden	6,000 lbs.	7,400 lbs.
Loading per sq. ft. ..	10-25 lbs.	11-1 lbs.
" " h.p.	13 lbs.	16-1 lbs.
Speed range	49-120 m.p.h.	52-118 m.p.h.
Cruising speed	100 m.p.h.	100 m.p.h.
Climb (ground level) ..	600 ft./min.	400 ft./min.
Ceiling	15,000 ft.	14,000 ft.

PRIVATE



FLYING

A Section of **FLIGHT** in the Interests of the Private Owner, Owner-Pilot, and Club Member

THE AIR TOUR HABIT

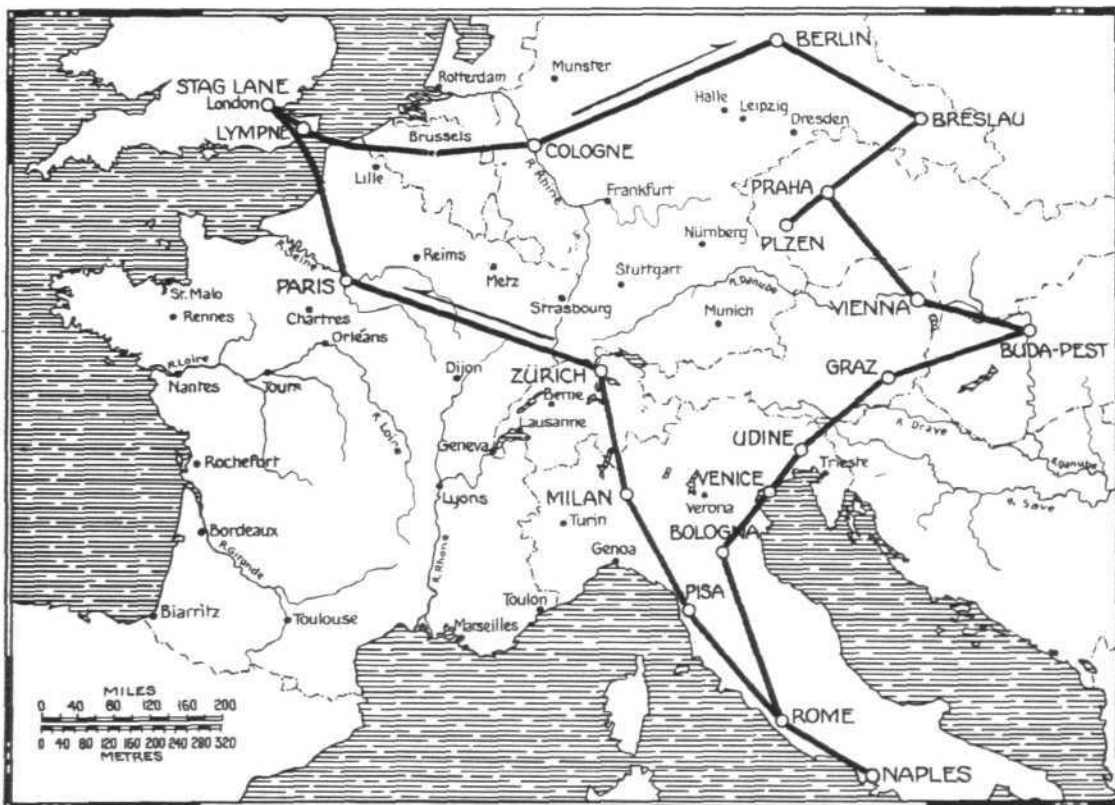
Mr. D. Kittel Completes Nearly 4,000 Miles

THE vogue of purely private flying on any regular and considerable scale can be considered as having been definitely established this year. In particular, the Continental air tour of 3,000 to 4,000 miles has become a favourite habit, representing in most cases the first bold air endeavour after the usual preliminary experiments round the chimney pots. It is really remarkable, too, with what success it has been accomplished, in spite of the fact that the Continent is well-equipped with aerodromes, and the air trails from city to city and country to country are daily followed by commercial aircraft. England is quite a pioneer in this new aspect of aviation, for our tourists do not come across air tourists of other nationalities. One reason for this perhaps is a lack of foreign development of the light aeroplane of our standard. It must be admitted though that our lead in air touring

The Tour Commences

It was on Moth X that Mr. Kittel made this European trip, which commenced on September 18 and finished on October 6. He flew alone, for this enabled more luggage to be carried. On the first day, after clearing Customs at Croydon, he reached Lympne, and landed there to fill up the tank again in order that Cologne might be gained without another halt. The precaution proved unnecessary, however, for this stage was done in 2 hrs. 50 mins. with the help of a fresh following wind. A day was lost at Cologne on account of bad weather; the visibility being no more than the length of the Bickendorf aerodrome. A start was made the next day on a course a few points to the north to make Berlin. The wind was again friendly, but flying over Germany was not so simple owing to the poor visibility and the great

Mr. D. Kittel's Air Tour of Europe. This map delineates the course followed by this experienced private-owner on his 4,000-mile flight through eight countries. He flew his "Moth X", called Silvry 3, and had a very enjoyable time, the weather being more or less favourable and his machine proving again its accepted high standard and reliability.



would not be possible without the capital ground organisation that Europe incidentally provides through its extensive use of commercial aviation.

One of the most recent tours through a number of European countries has just been carried out by one of our most experienced private-owners, Mr. D. Kittel. Readers of **FLIGHT** will remember a previous short tour which he completed early this year. Apart from this, he has well covered this country and has totalled nearly 400 hours' flying. He was one of the first members of the London Aeroplane Club, and has owned two machines in his career; the first a Moth Mk. I and the second a Moth X type. The first he called Silvry 2 and the other Silvry 3. His car is Silvry 1. Some time ago, when landing at Stag-Lane, he met with a slight mishap on Silvry 2, and on contemplating the result to the machine he decided to obtain a new one. He acquired Moth X by giving this old machine in part payment, for it was not seriously damaged and is now the satisfactory possession of another private owner.]

number of towns—which were difficult to distinguish from each other. Through these reasons it became necessary to make two landings in fields; one at Vlotho and the other at Oschersleben, near Magdeburg; to enquire the way. These events gave the peasants some astonishment, apparently at the sight of a silver and black machine descending on their soil. Despite the variations made from the true course on this stage, Berlin was reached in 3 hrs. 15 mins., the distance flown being about 310 miles. Praha (Prague) was the next place visited, *via* Breslau, the distance being 180 and 140 miles respectively. The number of lakes surrounding Berlin made the flight from that city to Breslau rather confusing. The pilot again lost his way and resorted to circling the station at Sagan at an altitude of 100 ft. to read the name and thus correct his position. This procedure created some surprise in the porters and passengers. Another landing was made for further correction at the military aerodrome of Bozi Dahr in Czecho-Slovakia. The captain of this aerodrome was the only person who could make himself

understood to Mr. Kittel by using broken German. "He" took copious notes about the Moth X before allowing it to proceed, and he seemed particularly concerned with the name Silvry 3 which he no doubt took for the official designation of the machine.

An Intense Moment

In Praha a day or two was spent and a local return trip made to Plzen, a total distance of 120 miles. The tour was continued in a southerly direction towards Austria and after 2 hrs. 15 mins. flying Vienna was reached, the distance covered being 160 miles. Petrol was taken aboard here and provender acquired for consumption on the way to Budapest, 125 miles, a stage which took Mr. Kittel another 1 hr. 45 mins. Turning to the east from here, he flew to Graz, 165 miles, and then went over the Dolomites to Udine in Italy, this trip being 130 miles. It was quite a short operation here to clear Customs, get refreshment at the officers' mess, and manage a considerable amount of writing in the carnet de passage.

By nightfall the Lido was gained. It was now that the only awkward and uncomfortable moment of the whole tour occurred. Mr. Kittel had just taken off when leaving the Lido and had reached a height of about 150 ft. when his engine suddenly cut right out. Below the "Moth" the houses and trees spread out threateningly and a crash seemed inevitable. However, by working the throttle backwards and forwards the engine was persuaded to splutter sufficiently to enable a half-circle towards the aerodrome to be made, and thus a severe predicament was averted. The cause of the engine trouble was then found to be an air-lock in the petrol tank, due to the vent pipe being blocked. This, in turn, happened through the screwing down of the filler cap with a spanner, which was only done at Venice.

Bologna, 80 miles away, was the next stop as a preliminary stage to reaching Rome, a farther 200 miles. This latter stretch was almost entirely flown over the Apennines, and Mr. Kittel had to climb to 6,000 ft. Naples followed, and this was the most southerly point visited. Turning for home he went to Rome again and thence on to Pisa, 165 miles. A course across country was pursued next to reach Milan, 140 miles, after which came a flight to Zurich, 145 miles, passing the Alps at 14,000 ft. Another 300 miles' flying brought the tourist to Paris.

For the last stage of the journey to England the "Moth" had the company of an Imperial Airways liner, and the two kept very close together all the time. The pilot of the air liner kindly wirelessed on Mr. Kittel's intended Channel crossing to enable him to make the short cut from Etaples to Dungeness and not circle St. Inglevert and Lympne. The journey to Croydon was thus made in 2 hrs. 45 mins. Here the Customs formalities occupied no more than a few minutes, and then a final 15 minutes' flight brought the long and interesting tour to an end at Stag Lane.

In Summary

The statistics of this tour produce a mileage of nearly 4,000 over a period of nineteen days. Eight countries were visited. The venture was a delightful one, not marred much with bad weather. The first day proved the only occasion when it was necessary to fly through rain. Contrary to the records of one or two other tourists, Mr. Kittel had no difficulty in getting weather reports in advance and of a reliable nature. At Duebendorf (Zurich) a weather report in printed form is issued to air travellers in which is given all the conditions to be met with on the route to Paris. Customs procedure is generally simple, particularly in Germany, Czecho-Slovakia, Austria, Hungary and Switzerland. In Italy and France the officials insisted on the filling out of the carnet de passage. There was not this trouble elsewhere. In Italy the officials direct their main interest in discovering cameras; and almost the first greeting received on landing there related to "appa-



["FLIGHT" Photograph]

Mr. D. Kittel taken beside the nose of his own "Moth X," called Silvry 3, on his arrival at Stag Lane after the successful completion of his latest European tour. He was one of the first private owners to learn to fly at Stag Lane with the London Aeroplane Club, and has about 400 hours' flying to his credit.

ragi fotografici." This close scrutiny prevails even in the event of a test flight. In Italy Mr. Kittel had the sensation of flying level with the mountains at an altitude of 6,000 to 7,000 ft., and he was able to appreciate how mountainous the country really is.

Much kindness was received on the Continent. At Bologna the people insisted on filling up the "Moth's" tank with petrol free of charge. And as petrol is 4s. 6d. a gallon in Italy this generosity was by no means inconsiderate.

On the whole navigation gave no trouble. On the stages between the principal European towns the characteristics of the intervening country together with the help of a motor map, provided sufficient guidance. It was only in instances of poor visibility that the compass had to be solely relied upon. The vast activity of commercial aviation in Europe impressed Mr. Kittel, as it does every air traveller. At the Tempelhof Aerodrome, Berlin, about 26 machines arrived and departed daily, their destinations lying in all parts of Germany. The Junkers monoplanes with their neatly cowled-in engines, impressed him, too, with their clean lines. In Czecho-Slovakia he found a flying club equipped with fifteen machines, nearly all being re-conditioned army 'planes. One of them had been taken from the Russians during the war.

Summarising the whole venture, Mr. Kittel declared it to have been the most enjoyable holiday he had ever spent.

Capt. Lancaster and Mrs. Keith Miller Flying to Australia in an "Avian"

On October 14, Capt. W. N. Lancaster and Mrs. Keith Miller left Croydon in their Avro "Avian" for Australia. Lady Ryrie, wife of the High Commissioner, and Col. Ivo Edwards, of the Air Ministry, watched the start. The pilot said that the flight was in no way a stunt, but a reliability test. The first stage took them to Abbeville, and the second to Le Bourget. The departure from here was delayed for two hours owing to fog, and they reached Dijon early in the afternoon of October 16. They set off again an hour later and arrived at Lyons. The next day Marignano, in Italy, ten miles S.E. of Milan, was gained via Marseilles.

Quick Sale of D.H.53 Monoplane

MR. BAXTER ELLIS, of the Newcastle Aero Club, recently sold his D.H.53 monoplane, fitted with a Blackburne 5 h.p. engine. Within a very short while of putting it up for sale it was disposed of to a fellow club member, Mr. Vernon Heaton, jun., who was not the only bidder.

Municipal Aerodromes

As a result of communications from Sir Alan Cobham several more towns are considering the question of providing municipal aerodromes. Blackpool is keenly interested, and seems likely to have one very soon. Middlesbrough is considering its facilities, but Whitley and Gainsborough cannot meet the proposals at the present.

LIGHT 'PLANE CLUBS

London Aeroplane Club, Stag Lane, Edgware. Sec., H. E. Perrin, 3, Clifford Street, London, W.1.
Bristol and Wessex Aeroplane Club, Yate, Gloucester. Secretary, Lieut.-Col. C. Fleming, Filton Aerodrome, Patchway.
Hampshire Aeroplane Club, Hamble Southampton. Sec., Maj. Ross White, Hamble, Southampton.
Lancashire Aero Club, Woodford, Lancs. Sec., C. J. Wood, Oakfield, Dukinfield, near Manchester.
Midland Aero Club, Castle Bromwich, Birmingham. Sec., Maj. Gilbert Dennison, 22, Villa Road, Handsworth, Birmingham.

Newcastle-upon-Tyne Aero Club, Cramlington, Northumberland. Sec., A. H. Bell, c/o The Club.
Norfolk and Norwich Aero Club, Mousehold, Norwich. Sec., H. O. Bennett, 5, Opie Street, Norwich.
The Scottish Aero Club Movement, 101, St. Vincent Street, Glasgow. Sec.: Harry W. Smith.
Suffolk Aeroplane Club, Ipswich.—Secretary, Courtney N. Prentice, "Hazeldehl," Stowmarket, Suffolk.
Yorkshire Aeroplane Club, Sherburn-in-Elmet, Yorks. Sec., D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.

LONDON AEROPLANE CLUB

REPORT for the week ending October 16:—Flying time, 21 hrs. 30 mins. Dual, 16 hrs. 10 mins.; solo, 3 hrs. 20 mins.; passenger flights, 2.
 Dual instruction.—With Capt. F. G. M. Sparks: L. R. Winter, R. Hayes, F. C. Fisher, Miss Fletcher, E. A. Lingard, G. Black, G. H. Weston, M. P. Susman, L. Rowson, A. Fowler, J. H. Smith, G. Clemetson.
 With Capt. S. L. F. St. Barbe: A. J. Richardson, R. Hayes, M. Parkin, L. Burt, G. Clemetson, E. R. Andrews, Miss Wilson, J. A. Brewster, H. B. Michelmore, E. R. Andrews, A. Fowler, G. H. Weston.
 Solo flying.—Maj. Beaumont.
 Passenger flights.—With Capt. S. L. F. St. Barbe: Mrs. Carberry, O. J. Tapper. With W. Hay: Miss Darter, A. Fowler.

BRISTOL & WESSEX AEROPLANE CLUB

REPORT for week ending October 15:—Flying time, 18 hrs. 20 mins. Instruction, 11 hrs. 35 mins.; soloists (under instruction), 4 hrs. 45 mins.; passengers, 2 hrs.
 Instruction with Mr. Bartlett:—Miss O. Miles, Messrs. Bathurst, Bryan, T. H. Clarke, Downes-Shaw, R. A. Hall, C. E. Pitman, J. Pitman, Roberts, Jopp, and Welch.
 Soloists under instruction:—Miss Miles, Messrs. Bathurst, Downes-Shaw, Hall, C. E. Pitman, and Tratman.
 Passenger with Mr. Tapp:—Miss Tapp.
 Miss Miles is the first of our lady pilots to go solo, having carried out her first solo flights this week.
 The weather has been good for flying, which has enabled the club to demonstrate to new members who have joined since the official opening on October 8, and to those who have come to make inquiries, the possibilities of a light aeroplane club.

LANCASHIRE AERO CLUB

REPORT for week ending October 15:—Flying time, 20 hrs. 20 mins. Instruction, 9 hrs. 25 mins.; solo flights, 5 hrs. 30 mins.; passenger flights, 4 hrs. 20 mins.; test, 1 hr. 5 mins.
 Instruction.—With Mr. Brown: Messrs. Heath, Hall, Chart, Forshaw, Riley, Browning, Ruddy, Benson, Allott, Brookings, Harber, Sykes, Meades, Nelson, Miss Baerlein. With Mr. Scholes: Messrs. Rowley and Caldecott. With Mr. Cantrill: Mr. Nelson.
 Soloists (under instruction).—Messrs. Meades, Rowley, Forshaw, Caldecott, and Anderson.
 Pilots.—Messrs. Nelson, Crosthwaite, Williams, Ward, Twemlow, Costa.
 Passengers.—With Mr. Leeming: Messrs. Sandham, Shackleton, Minster, Fagg, Etchells, and Miss Borwick. With Mr. Goodfellow: Mrs. Lightfoot, Miss N. Plant, and Miss H. Plant. With Mr. Lacayo: Messrs. Hartley and Allott. With Mr. Twemlow: Mrs. Twemlow, Mr. Allott. With Mr. Brown: Mr. Chambers. With Mr. Cantrill: Mr. Parker.
 The week has been singularly free from excitement; indeed, but for a tree-trunk, it would have been positively dull. The tree-trunk was lying on the aerodrome, and that naughty old lady, MQ, landed on it. She'll know better next time.
 OK is back in the fold again, and so is RR. QL, which replaces LV, will be in service on Tuesday. Out of the sundry fuselages, empennages, aerofoils and what-nots in the hangar, LV is being rebuilt, and has already been sold to Mr. Anderson, one of our members, who proposes to allow the rebuilt machine to be used by the club when not in use by himself—a very sporting proposition.

MIDLAND AERO CLUB LIMITED

REPORT for week ending October 15:—Total flying time, 16 hrs. 18 mins. Dual instruction (with Mr. W. J. McDonough).—E. P. Lane, J. E. Brewin, N. Crane, R. Khatri, H. J. Lattey, G. Robson, R. Darlington, V. de Satge, R. L. Brinton.
 Solo.—R. L. Jackson, R. L. Brinton, S. H. Smith, R. D. Bednell, E. J. Brighton, V. de Satge, C. W. Fellowes, W. Swann.
 Passenger flights (with Mr. Brighton).—W. C. Willden, J. H. Moore, E. G. Hall, E. D. Wynn, H. J. Lattey, J. G. Wood, D. B. Browne.
 Passenger flights (with Mr. Jackson).—L. V. Mann.
 On Sunday Mr. R. D. Bednell successfully passed the flying tests for his aviator's certificate.
 During the week Mrs. Elliott-Lynn on a Moth, Mr. Taylor on an Avro, Mr. Cameron on an Avro, and Mr. Lancaster on the Avian, in which he is attempting to fly to Australia, paid us a visit.

NORFOLK & NORWICH AERO CLUB

REPORT for week ending October 16:—Total flying time, 10 hrs. 15 mins. Dual with Mr. G. F. Lines.—Messrs. H. Vardon-Smith, H. Neave, H. Mack, R. F. Potter, H. J. Finch.
 Solo.—Messrs. W. P. Cubitt, R. Harmer, W. A. Ramsey, A. B. C. Moore, F. Gough.
 Joy rides.—Mrs. R. F. Horner, Messrs. A. Bagstand, M. Smith, B. Sutton.
 The club now possess a second machine in G-EBPJ Renault Avro, dual control. This machine is in excellent condition, and will prove a tremendous asset. It arrived on Sunday morning, and is now available for either solo or instruction.

SUFFOLK AEROPLANE CLUB

REPORT for week ending October 16:—Flying time, 7 hrs. 5 mins. Instruction with Mr. Lowdell.—Miss D. Creasy, Dr. Sleigh, G. Hutley, S. Schofield, N. Creasy.

Passengers with Mr. Lowdell.—F. H. Jolly, T. Marriage.
 Passenger with C. N. Prentice.—Miss Creasy.
 A farewell dinner and dance to wish our voluntary instructor, Flight-Lieut. D. Carnegie, God-speed on his Far East flight was held at the Crown and Anchor Hotel, Ipswich, on October 4. He will be sorely missed in the club circle. His great interest and untiring efforts to help the club in its initial stage will always be remembered, and the members as a token of their appreciation presented him with a silver cigarette case suitably engraved.
 Mr. Prentice flew the "Bluebird" over to our new aerodrome at Hadleigh last Wednesday, and we are now quite settled there. We shall be pleased to see any friends who care to come along. Flying is in full swing Wednesday and Saturday afternoons, and all day Sundays. One member successfully passed his test and obtained his "A" licence this week. We are now endeavouring to furnish our club-house, and as the committee will not authorise any expenditure in this direction may we appeal to those wealthy, luxurious, over-furnished, subsidised clubs to pass on any odd chairs, rugs, pianos, etc., for which they have no use. Kindly deliver in "plane" vans.

YORKSHIRE AEROPLANE CLUB

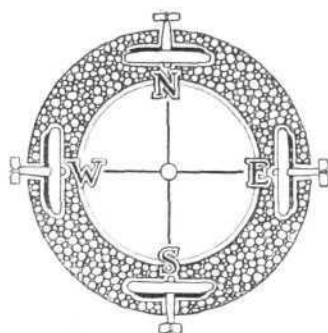
REPORT for week ending September 25:—Total flying, 14 hrs. 40 mins. instruction, 3 hrs. 40 mins.; soloists, 9 hrs. 50 mins.; passengers, 1 hr. 10 mins.
 Instruction with Capt. Beck:—Messrs. Hirst, Yeomans, Parker, Wilson, Bailey, Crowther, Fielden, Humphries, Ellison, Wood and Dujardin.
 Soloist:—R. K. Lax. "A" licence: Miss Woodhead; Messrs. Thomson, Brackenbury, Mann, Wilson and Wood.
 Passengers with Mr. Beck:—Messrs. Nash, Crouch and Stevenson.
 REPORT for week ending October 1:—Total flying times, 17 hrs. 30 mins.; instruction, 6 hrs.; soloists, 9 hrs. 30 mins.; passengers, 2 hrs.
 Instruction with Capt. Beck:—General Atcherley, Miss Woodhead; Messrs. Demaine, Crowther, Mann, Dawson, Bailey, Swift, Little, Yeomans, Ellis, Humphries, Carter and Birch.
 "A" Licence:—Miss Woodhead; Messrs. Mann, Dawson, Thomson, Wilson, Wood and Norway.
 REPORT for week ending October 8:—Total flying time, 16 hrs. 10 mins.; instruction, 4 hrs. 50 mins.; soloists, 7 hrs. 25 mins.; passengers, 3 hrs. 55 mins.
 Instruction with Capt. Beck:—Miss Woodhead; Messrs. Rhodes, Ellis, Ellison, Little, Fitton, Hirst and Louty.
 Instruction with Mr. Fielden:—Miss Collins.
 Passengers with Capt. Beck:—Mrs. Norton and Mr. Basford.
 This week we must preface our remarks with an apology to all concerned for our apparent laxity in not sending reports for the two preceding weeks. This, by the way, was not laxity, but due to the pressure of Pageant work.
 Let us commence with the glad news that Captain "Toney" Milburn has taken a decided turn for the better, and is, we hope, now on the road to recovery.
 Our Pageant, which was held on October 1 and 2, produced some excellent racing. (See FLIGHT, October 6.)
 On the Saturday it rained most of the day, but in spite of the poor visibility the spirit of the competitors was not damped and some close finishes resulted. On Sunday a gale blew. "Scruffy" Robinson with his old joy-riding spirit did his best, to the tune of three trips, when he decided that there was no "joy" in this, and joined the rest of us in the "Rest" Marquee.
 The "party" side of the Pageant held at the Londesborough Hotel made up, in some measure, for the very disappointing weather conditions that prevailed throughout the week-end.

REPORT for week ending October 15:—Flying time, 31 hrs. 30 mins. Instruction, 11 hrs. 40 mins. Soloists, 18 hrs. 15 mins. Passengers, 1 hr. 35 mins.
 Instruction (with Capt. Beck).—Miss Woodhead, Messrs. Dawson, Hiley, Lister, Dane, Shires, Ellison, Miller, Bell, Hirst, Mason, Humphries, Swift, Yeomans, Parker, Ellis, Collins, Thompson, Golden, Batcock, Lax, Fitton. (With Capt. Stockbridge).—Mr. Ostler.
 Solo instruction.—Messrs. Lax, Lister, Ellison.
 "A" pilots.—Messrs. Dawson, Thompson, Mann, Brackenbury.
 Passengers (with Capt. Beck).—Capt. Sturton, Mr. Beazer. (With Mr. Brackenbury).—Mr. Bell. (With Capt. Stockbridge).—Gen. Sir Sefton Branker.
 During the week Mr. Jack Ellison did his first solo flight, and put up an excellent performance on one of the club "Bluebirds."
 Mr. R. K. Lax has now passed his Aero club tests, and will we hope get his "A" licence during next week.
 On Sunday we had beautiful weather and a good many members availed themselves of this and turned up at the aerodrome.
 Capt. J. B. Stockbridge, one of the R.A.F. instructors at Brough, and hon. instructor to the club, took a club "Bluebird" to Bristol, calling at Hendon on the way, where he picked up Gen. Sir Sefton Branker and took him on to Bristol.
 On Saturday Flying Officer Dick Atcherley brought an S.E.5G-EBPA to Sherburn for a visit.

THE AERO CLUB OF SOUTH AFRICA

The Aero Club of South Africa is now affiliated to the Royal Aero Club, and an agreement has been entered into whereby the Aero Club of South Africa is the official representative of the Royal Aero Club in South Africa.
 The Aero Club of South Africa embraces the various Aero Clubs established in South Africa at Cape Town, Durban, East London and Johannesburg.
 Lieut.-Col. W. D. Beatty, C.B.E., A.F.C., who was for several years on the Committee of the Royal Aero Club in London, has taken an active part in the formation of the Aero Club of South Africa, and has been elected its Chairman.

AIRISMS FROM THE



FOUR WINDS

Renewed Atlantic Activity

THE Atlantic flying season has started again just when we thought it had closed down for the year. With typical American modesty, Miss Ruth Elder told the world that she was going to land in Paris dressed to kill both man and mannequin. She started from New York on October 11 in a Stinson monoplane, painted a brilliant orange colour, and thereby put the whole of America off its grape-nuts. They would have much preferred the pain of her dentistry to the pain of losing their sleep and appetite. She carried a beauty box, and wore diamond rings, remember. Incidentally, she carried a pilot with her, Capt. G. Haldeman. When 500 miles out from New York they were sighted by the steamer *American Banker*. Then followed the usual silence and overdue warning. Next came the unexpected rescue in mid-ocean by the s.s. *Barendrecht*. The machine caught fire and was destroyed during salvage operations, but the crew were none the worse for their experience. The forced descent was caused through an oil pipe breaking. Later on, Miss Elder and Capt. Haldeman were landed at the Azores, from whence they are on their way to Paris.

German Atlantic Flight

THIS methodical attempt of the Germans to reach America by easy stages is progressing with expected success. The seaplane D.1230 crossed from Lisbon to Horta, Azores, on October 14, in 8½ hours. The Austrian actress, Fraulein Lille Dillenz, was on board. The flight was through clouds, and rain all the way after passing St. Michael.

Second German Venture

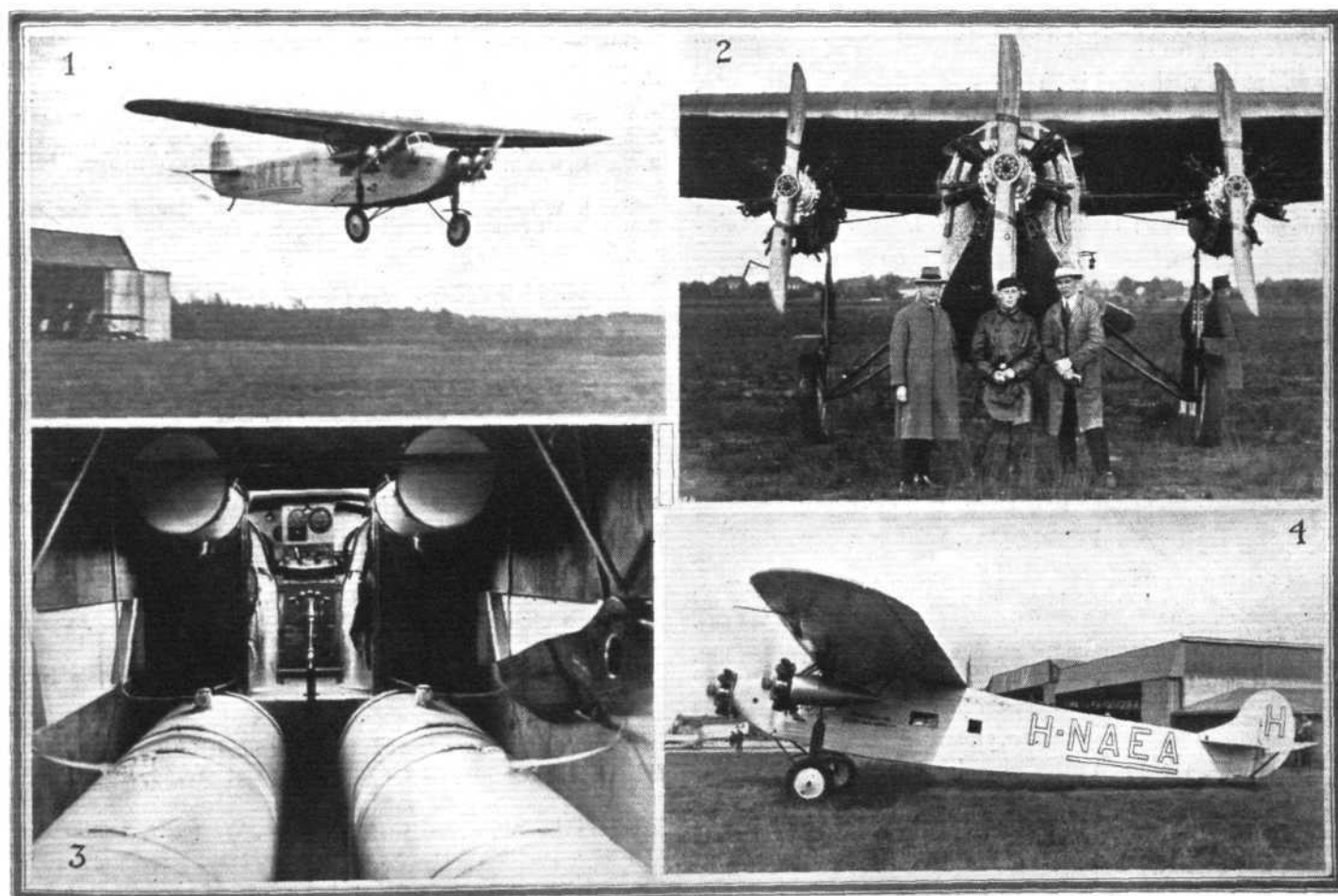
THE D.1220, a second Junkers machine, left Wilhelms-haven on October 13, and arrived at Schellingwonde. It departed from Holland on October 16, and came down in the sea off Vigo, Spain, at 6 p.m. Bad weather had been met with over the Bay of Biscay, and a slight leak in the petrol tank had developed. They await now authorisation from Madrid to resume the flight to America via the Azores.

South Atlantic Crossed

THE French airmen, Capt. Costes and Lieut. Le Brix, succeeded in crossing the South Atlantic from Senegal, on the West Coast of Africa, to Port Natal, Brazil, on October 14. This distance of 2,000 miles took them 21 hrs. 15 mins. Thus for the first time this ocean has been flown direct without the usual stop at Fernando Noronha. The two Frenchmen continued their flight, and reached the Latécoère Aerodrome at Caravellas on October 16. On October 17 they reached Rio de Janeiro, and were escorted by Brazilian aeroplanes. They are using a Breguet biplane fitted with an Hispano-Suiza.

Mrs. Grayson's False Start

MRS. F. W. GRAYSON left Old Orchard, Maine, in her Sikorsky amphibian, "The Dawn," on October 17, to cross the Atlantic. The machine proved too heavily laden, and lost height rapidly, until 260 gallons of petrol was quickly released, after which it rose and disappeared over the sea. It returned shortly after, however, and landed. The pilot, Wilmer Stulz, reported that the nose was heavy, and the load would have to be redistributed.



AMSTERDAM-BATAVIA IN TEN DAYS: As previously recorded in *FLIGHT*, Lieut. Koppen of the Dutch R.A.F. recently accomplished a splendid flight from Amsterdam to Batavia, in a Fokker monoplane fitted with three Armstrong-Siddeley "Lynx" engines. Carrying mails, he covered the 9,000 miles in 10 days. (1) The Fokker F.VII-3.M in flight. (2) The crew—from left to right, 2nd-pilot (K.L.M.) Fryns, Lt. Koppen, and mechanic Elleman—and the three British engines which carried them through so successfully. (3) The four extra petrol tanks in the fuselage. (4) A side view of the Fokker F.VII-3.M.

THE ROYAL AIR FORCE

London Gazette, October 11, 1927.

General Duties Branch

Group Capt. C. E. H. Rathborne, D.S.O., is restored to full pay from half-pay; Oct. 11.

The following Flying Officers are transferred to Reserve, Class A:—M. R. Banks; Oct. 16. C. Sagon; Oct. 12. Flying Officer W. E. Johns is transferred to Reserve, Class C; Oct. 15. Flying Officer T. C. Head is placed on retired list at his own request; Oct. 10. The short service commns. of the following Pilot Officers on probation are terminated on cessation of duty (Oct. 12):—P. B. Manning, H. A. U. Monro.

Flying Officer Reginald G. M. Hill (Sec. Lieut., Lond. Regt., T.A.) is cashiered by sentence of General Court-martial; Aug. 13.

Medical Branch

Flight-Lieut. T. W. Wilson is granted a permanent commn. in this rank; Oct. 12. A. W. Comber is granted a temporary commn. as Flight-Lieutenant, with effect from, and with seniority of, Sept. 20.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Group Captain A. G. Board, C.M.G., D.S.O., to H.Q., Egypt, for duty as Chief Staff Officer; 27.9.27.

Wing Commander W. J. Y. Guilfoyle, O.B.E., M.C., to R.A.F. Depot, Uxbridge, whilst attending Staff Course at R.N. College, Greenwich; 4.10.27.

Squadron-Leaders: W. H. L. O'Neill, M.C., to Aircraft Depot, India; 20.9.27. A. N. Gallehawk, A.F.C., to R.A.F. Depot, Uxbridge; 12.9.27. P. G. Scott, to Armament and Gunnery School, Eastchurch; 6.9.27. D. F. Stevenson, D.S.O., M.C., to R.A.F. Depot, Uxbridge; 4.10.27. F. Fernihough, M.C., to No. 22 Group H.Q., Farnborough; 1.10.27. F. R. Alford, M.C., to R.A.F. Depot, Uxbridge; 2.10.27.

Flight-Lieutenants: R. S. Aitken, M.C., A.F.C., to R.A.F. Depot, Uxbridge; 5.9.27; to Air Ministry (Signals Branch), 22.9.27. F. H. Laurence, M.C., to Aircraft Depot, India; 1.9.27. A. C. Stevens, to R.A.F. Base, Calshot; 30.10.27. A. A. C. Hyde, to No. 99 Sqdn., Bircham Newton; 2.10.27. B. H. C. Russell, to No. 5 Sqdn., India; 30.8.27. A. Rowan, to No. 208 Sqdn., Egypt; 27.9.27. R. B. Sutherland, D.F.C., to No. 2 Armoured Car Co., Palestine; 27.9.27. R. S. Greenslade, to No. 4 Flying Training Sch., Egypt; 27.9.27. A. Hesketh, D.F.C., to H.Q., Mediterranean; 27.9.27. A. H. H. Macdonald, to Air Ministry (Directorate of Operations and Intelligence); 14.10.27. T. W. S. Brown, to No. 8 Squadron, Aden; 27.9.27. W. M. Yool, to R.A.F. Station, North Weald; 27.9.27. E. L. P. Morgan, to No. 5 Flying Training School, Sealand; 9.10.27. A. R. M. Rickards, A.F.C., and G. H. Russell, D.F.C., to R.A.F. Depot, Uxbridge; 6.10.27. C. Halliwell, to R.A.F. Depot, Uxbridge; 3.10.27. R. S. Sugden, A.F.C., to Central Flying School, Upavon; 2.10.27. A. S. Ellerton, O.B.E., to R.A.F. Depot, Uxbridge; 2.10.27. F. C. B. Savile, to Wessex Bombing Area H.Q., Andover; 11.10.27. J. R. F. Randall, D.F.C., to No. 1 Sch. of Tech. Training (Apprentices), Halton; 24.10.27.

Flying Officers: O. B. Swain, to No. 5 Sqdn., India; 20.9.27. R. S. Blucke, to No. 31 Sqdn., India; 20.9.27. F. J. Fressanges and H. G. Wisher, to Aircraft Depot, India; 20.9.27. A. H. Simmonds, to R.A.F. Depot, Egypt; 27.9.27. B. W. T. Hare, to No. 11 Sqdn., Netheravon; 30.9.27. A. E. Rogenhagen, to Experimental Section R.A.E., Farnborough; 27.9.27. B. W. Duley, M.M., to No. 216 Sqdn., Egypt; 27.9.27. C. F. Sealy, to R.A.F. Depot, Egypt; 27.9.27. C. F. Caunter, to R.A.F. Base, Gosport; 3.10.27. R. C. Wilson, to No. 45 Sqdn., Egypt; 27.9.27. G. A. R. Muschamp, to R.A.F. Depot, Uxbridge; 30.8.27. J. W. Caddy, to Home Aircraft Depot, Henlow; 3.10.27. C. G. C. Woledge, to Aircraft Depot, Iraq; 12.9.27. F. M. Denny, to No. 22 Sqdn., Martlesham Heath; 2.10.27. G. N. Hoar, to R.A.F. Depot, Uxbridge; 10.8.27. H. H. Brookes, to No. 22 Sqdn., Martlesham Heath; 26.9.27. S. C. Parker, to Sch. of Army Co-operation, Old Sarum; 23.9.27. S. A. Thorn, to Experimental Section, R.A.F., Farnborough; 3.10.27. F. Woolley, D.F.C., to R.A.F. Depot, Uxbridge; 6.10.27. D. S. Green, to Experimental Section, R.A.E., Farnborough; 5.10.27. A. J. Brister, to H.Q., Air Defence of Great Britain, Uxbridge; 1.10.27. (Hon. Flight-Lieut.) C. M. E. Gifford, to R.A.F. Depot, Uxbridge; 30.9.27. P. S. Blockey, to Night Flying Flight, Biggin Hill; 29.9.27. J. H. McN. Campbell, to R.A.F. M.T. Depot, Shrewsbury; 10.10.27. G. A. Kysh, to R.A.F. Depot, Uxbridge; 16.9.27.

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

M. V. Delap is granted a commn. in Special Reserve as a Pilot Officer on probation; Oct. 11. Pilot Officer W. T. W. Ballantyne is promoted to rank of Flying Officer; Oct. 6. Flying Officer M. C. Dudding is transferred from Class C to Class A; Sept. 30. The following Flying Officers are transferred from Class A to Class C:—R. P. Whyte; Oct. 8. J. Gallacher; Oct. 9. Flying Officer E. H. Stuart relinquishes his commn. on completion of service; Sept. 2.

AUXILIARY AIR FORCE

General Duties Branch

The following to be Pilot Officer:—No. 602 City of Glasgow (Bombing Squadron).—A. D. Farquhar; Aug. 17.

Princess Mary's R.A.F. Nursing Service

Sister Miss M. B. Morrison resigns her appointment; Sept. 25.

Pilot Officers: W. G. Cheshire, to No. 45 Sqdn., Egypt; 17.9.27. R. C. Edwards, to No. 216 Sqdn., Egypt; 17.9.27. A. A. Koch, to No. 208 Sqdn., Egypt; 27.9.27. A. K. K. Calwell, to No. 16 Sqdn., Old Sarum; 19.9.27.

Stores Branch

Flight-Lieutenants: J. H. Dale, to Aircraft Depot, India; 20.9.27. F. Anderson, to R.A.F. M.T. Depot, Shrewsbury; 5.10.27. T. E. Drowley, to Wessex Bombing Area, H.Q., Andover; 11.10.27. D. W. Wilson, to No. 3 Stores Depot, Milton; 5.10.27.

Flying Officers: A. Amy, to Aircraft Depot, Iraq; 20.9.27. C. J. Elliott, to H.Q., Cranwell; 10.10.27. C. W. H. Moller, to R.A.F. Station, Tangmere (Storage Unit); 3.10.27. A. E. F. McCreary, to Sch. of Store Accounting and Storekeeping, Kidbrooke; 7.10.27.

Accountant Branch

Flight-Lieutenants: H. G. Bushell, to Armoured Car Wing, Iraq; 20.9.27. A. W. Gray, to R.A.F. Depot, Egypt; 27.9.27. A. C. Lobley, to Sch. of Army Co-operation, Old Sarum; 14.10.27. W. E. Ennis, to H.Q., Inland Area, Stanmore; 10.10.27.

Flying Officers: K. A. Jackman, to Aircraft Depot, Iraq; 20.9.27. G. Goodall, to No. 84 Sqdn., Iraq; 20.9.27.

Pilot Officer: B. Chadwell, to Record Office, Ruislip; 10.9.27.

Medical Branch

Squadron-Leaders: H. McW. Daniel, M.D., to Station H.Q., Hinaidi; 9.9.27. J. Rothwell, M.B., W. G. L. Wambsee, and D. G. Boddie, M.B., to H.Q., Iraq; 20.9.27.

Flight-Lieutenants: C. T. O'Neill, O.B.E., M.B., to H.Q., India; 20.9.27. A. W. Comber, to Home Aircraft Depot, Henlow, on appointment to a Temp. Commn.; 20.9.27.

Flying Officers: G. E. Church, M.B., P. H. Perkins, R. A. W. Kerr, M.B., R. Thorpe, and E. J. T. McWeeney, M.B., to H.Q., Iraq; 20.9.27.

Chaplains Branch

Rev. J. A. Jagoe, M.A., to H.Q., Iraq; 20.9.27. Rev. J. F. Cox, M.C., B.A., to No. 4 Flying Training Sch., Egypt; 27.9.27.

NOTICE TO AIRMEN

Civil Aircraft Destroyed or Permanently Withdrawn from Use

The attention of all owners of aircraft is called to the requirements of Schedule I, paragraph 4, of the Air Navigation (Consolidation) Order, 1923, under which the registered owner of an aircraft is required to notify the Air Ministry immediately if an aircraft is destroyed or permanently withdrawn from use.

This notification, which should be addressed to the Secretary, Air Ministry (C.A.2), Gywdyr House, Whitehall, S.W.1, is required in addition to any accident report which may have been submitted in compliance with the Air Navigation (Investigation of Accidents) Regulations, 1922.

No. 80 of 1927.

PERSONALS

Married

Sqdr.-Ldr. NORMAN HOWARD BOTTOMLEY, A.F.C., R.A.F., son of Mr. Thos. Bottomley, Thornton Heath, Surrey, was married on October 8, at the Abbey, Paisley, to ANNE BIGGART, daughter of Ex-Provost W. B. and Mrs. LANG, The Grange, Johnstone.

JOSEPH ALAN CROOK, M.C., late Major R.A.F., only son of the late Mr. J. B. Howard Crook and Mrs. Crook, of 36, Alexandra Court, London, S.W., was married on October 12, at St. Andrew's Church, Backwell, to MARGARET JEANIE RUSSELL, elder daughter of Mr. and Mrs. GARNETT, of Backwell Hill House, Somerset.

The marriage took place on October, 11, at Christ Church, Down Street, Mayfair, of Sir JAMES HEATH, Bart., and Mrs. SOPHIE ELIOTT-LYNN, daughter of the late Mr. and Mrs. JOHN PEIRCE-EVANS, of Knockaderry, Co. Limerick.

To be Married

The engagement is announced between Flying-Officer C. F. CAUNTER, R.A.F., son of Mr. L. G. Caunter, of 8, South Mansions, Brondesbury, N.W.6, and KATHLEEN, daughter of Mr. and Mrs. PATRICK MURRAY, of 32, Pensford Avenue, Kew Gardens.

The engagement is announced between Sqdr.-Ldr. J. M. ROBB, D.S.O., D.F.C., R.A.F., and BESSIE MURRAY, youngest daughter of the late J. T. JOHNSTON and of Mrs. Johnston, of Brackenrigg, Pulborough.

Item

The late Capt. FRANKLYN LESLIE BARNARD, O.B.E., A.F.C., of Windy Ridge, Kenley, who was killed at Winterbourne, Glos., on July 28, left estate of the gross value of £12,755.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

APPLIED FOR IN 1926

Published October 20, 1927

- 15,908. VICKERS, LTD., and O. D. LUCAS. Means for controlling the fire of automatic guns carried by aircraft. (277,751.)
- 16,386. VICKERS, LTD., and F. W. SCARFF. Gun mountings for use on aircraft. (277,764.)
- 18,373. D. R. PORJOY. Means for keeping the valve-clearance of i.c. engines substantially constant. (277,778.)
- 30,531. G. A. EAGLES. Airships. (277,836.)

APPLIED FOR IN 1926

Published October 20, 1927

- 15,799. G. DE HAVILLAND and DE HAVILLAND AIRCRAFT CO., LTD., Air speed indicators for aircraft. (277,914.)

FLIGHT,

The Aircraft Engineer and Airships

36, GREAT QUEEN STREET, KINGSWAY, W.C.2.

Telephone: Gerrard 1828.

Telegraphic address: Truditur, Westcent, London.

"FLIGHT" SUBSCRIPTION RATES

UNITED KINGDOM				ABROAD*			
		s.	d.			s.	d.
3 Months, Post Free..	7	7		3 Months, Post Free..	8	3	
6 "	"	15	2	6 "	"	16	6
12 "	"	30	4	12 "	"	33	0

* Foreign subscriptions must be remitted in British currency.